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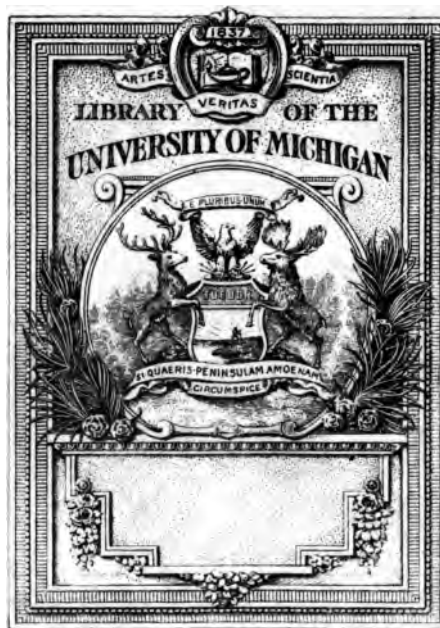
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THE
NEW-ENGLAND JOURNAL

OF
MEDICINE AND SURGERY,

AND
Collateral Branches of Science,

CONDUCTED BY A NUMBER OF PHYSICIANS.

Vol. X.

Homo naturæ minister et interpres tantum facit et intelligit, quantum de naturæ ordine, re vel mente, observaverit ; nec amplius scit aut potest.

FRANCIS BACON.

NEW SERIES, VOL. V.

BOSTON :
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1821.



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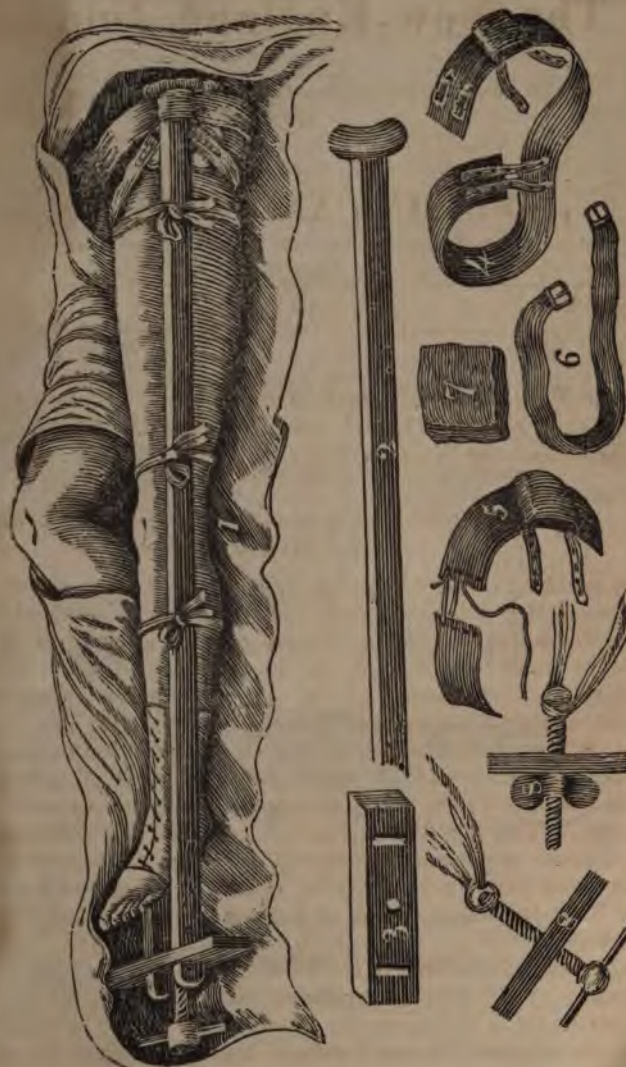
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Vol. X.

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No. I.

On the Treatment of Cynanche Trachealis ; being part of a Dissertation on that Disease, which obtained the Boylston Prize for 1820. By WILLIAM SWEETSER, Jun. M.D.

[Communicated for the New England Journal of Medicine and Surgery.]

IN speaking of the treatment of Cynanche Trachealis, we shall consider it a disease strictly inflammatory, for doing which we have the authority of many of the latest and best writers on it.

Much injury, as it regards the management of this complaint, may be the consequence of the opinion, which is even now too common, that it is spasmodic ; and I believe with Dr. Ferriar, that, "Many valuable lives have been sacrificed to the imaginary powers of assafoetida, or small repeated doses of antimonials, from unfounded theories of spasmodic constriction attending the disease." This gentleman considers croup as truly inflammatory, as pleurisy, or peripneumony, and not to be more accompanied with spasm than these affections. Many physicians undoubtedly, who have treated of croup as a spasmodic affection, have, from not duly attending to its diagnostic marks, confounded it with the acute spasmodic asthma of children, a disease, as has been already shown, very different in its nature. Even allowing there should be any doubt as it regards the question whether it be spasmodic, it would evidently be much safer to treat it as an inflammatory disease ; because our antiphlogistic remedies operate very pow-

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erfully as antispasmodics ; but the reverse of this does not hold, since the greater number of antispasmodic medicines in common use, not only do no good, but produce much harm in inflammatory affections.

Croup has its seat in parts the most essential to life ; it affects a very delicate membrane, upon which the whole force of this severe inflammation is spent. Its course also, is exceedingly rapid. For these reasons then, it seems plain that our remedies should be prompt and powerful ; "*ad extremos morbos, extrema exquisita remedia optima esse.*"

The first means of cure concerning which we shall treat is general bloodletting. Unless we see the patient very early in the disease, this should be the first remedy employed ; and it is seldom that the child is seen so early that it can safely be dispensed with ; for injudicious friends too frequently tamper with common family medicines until the inflammatory symptoms appear with all their violence. Should bloodletting now be omitted, or not used until these symptoms had continued for some time, the disease would almost always prove fatal. Three cases have come under my own observation in which general bloodletting was omitted ; they all proved fatal although the other means most approved, were used with the greatest assiduity. Each of these children were seen pretty early in the complaint. To effect a cure in this disease resolution must be produced, and what remedy have we so likely to do this, as general bloodletting ?

The ancient writers in medicine, in treating of that species of quinsy which corresponds with our definition of croup, have agreed almost universally, that bloodletting is the sole remedy upon which any reliance can be placed for its cure. Hippocrates and Galen, both insist much on the use of it in this species of quinsy. Aretæus recommends the blood to be taken from a larger orifice than usual, and in such quantity as nearly to produce fainting. Boerhaave, among the medical writers who come nearer our own period, recommends this practice. In aph. 809, referring to this kind of quinsy, he observes, "In the first place a speedy, large, and repeated bloodletting, must be put in practice, until the weakness, paleness, coldness, and collapision of the vessels, denote that the remaining strength is not able to increase the tumour and turgescence, or rigidity of the vessels." "That kind of inflammatory quinsy," observes Van Swieten, "which is seated either in the windpipe itself, or about the larynx, is of all the worst and most suddenly fatal, and requires the most efficacious remedies to be applied at one and the same time." Among the first and principal of which, he ranks bloodletting. He recommends the blood to be drawn until the patient faints, and if

the threatening symptoms return, again to have immediate recourse to it, the disease admitting of no delay ; for he remarks, " It is much better for the patient to languish sometime by a loss of blood, than to be unhappily suffocated." Home, Cullen, Michaelis, and many others of note who have written on cynanche trachealis, speak of bloodletting, as decidedly our best remedy. If then we see the child before the last stage of the disease, except, perhaps, very early in the first stage,* we should always commence the treatment with general bloodletting.

With regard to the quantity of blood to be drawn, it is difficult, nay impossible, to lay down any certain and invariable rule ; for, as will at once be seen, it must be varied according to the age of the patient, his habit of body, the severity of the symptoms, and length of time they have lasted. In a child from two to six years, from five to eight ounces of blood taken at once, would be a pretty full bleeding.

In the first stage of croup it will not often be requisite to employ bloodletting to the same extent, as though we were not called until symptoms of general inflammation were present. But even in this stage, especially if the child is robust and plethoric, and the difficulty of respiration considerable, we should let blood pretty freely. When the patient is not seen until symptoms of general inflammation are present, particularly if they have continued for any length of time, run high, and are attended with great difficulty of breathing, we ought to bleed even until fainting is induced, for here almost our sole chance of saving the child is by the free use of the lancet. It is pretty generally allowed that in acute inflammations, more especially where it is so important to produce a speedy effect on the disease, that the blood should be taken from a large vessel, and from a large orifice.

It is not unusual to meet with considerable difficulty in obtaining blood from young children in sufficient quantity to be of service in this disease, since their veins are quite small, and for the most part lie deeply imbedded in adipose substance. " In the case of young children," says Dr. Ferriar, " we must almost despair, for it is extremely difficult to procure any blood from them by the lancet." We can pretty generally however, obtain blood in tolerable large quantity from the vein on the back of

* In this dissertation I have divided croup, following Dr. Hosack, into three stages ; viz. the first, or forming stage, where the disease is merely local ; the second, or inflammatory, where the constitution sympathises with the local affection ; the third, or post febrile, in which effusion has taken place.

the hand, by immersing it in warm water; but we can place more certain reliance on the jugular vein. I should always prefer to open this last; first, because from its greater prominence it can be opened with more ease; second, it being larger than any other superficial vein, the blood may be drawn more rapidly, and obtained in greater quantity; and lastly, we may look for some advantage in drawing it from the neighbourhood of the diseased parts. Objections, to be sure, have been made to opening this vein; thus the operation has been thought hazardous in consequence of the extreme restlessness of the patient in this disease. It has been objected to, also, on account of the supposed difficulty, from the situation of this vein, of receiving all the blood, so as to ascertain the exact quantity taken. There is supposed likewise, to be constant danger of the orifice of the vein being opened afresh by the child's continued motion, and violent fits of coughing. And finally, it has been opposed on account of the peculiarly unpleasant effect which operations about the throat, especially where there is much loss of blood, produce on the bystanders. These objections appear of but little force. The child may easily be kept quiet by an attendant for so short a time as this operation will occupy; or if not, from the size and prominence of the vein, there would seem but little, if any difficulty or hazard attending it, when done by a skilful person. The quantity of blood drawn may be pretty accurately ascertained by using small vessels, as spoons or teacups, for its reception. By bringing the lips of the orifice together with common adhesive, or court plaster, they soon become so united as to be out of all danger of being forced open; but even should they be opened afresh, a new loss of blood might easily be prevented by pressing slightly upon the orifice with the thumb or finger. Allowing, however, more blood to be lost in this way, it would often, unless it happened in the last stage, instead of doing injury, be an advantage, as generally in this disease, there is much more danger of not getting enough, than too much blood. The effect on the bystanders ought to be of little consideration compared with the welfare of the individual. This, however, is often less owing to the operation itself, than to the slovenly manner in which it is performed. Neatness then in doing it ought to be particularly regarded; the blood must not be suffered to run down about the neck and clothes of the patient, but sponges or cloths should be had ready to soak up what is not caught in the receiving vessels.

In cyanche trachealis then, we ought always, unless any particular circumstances prevent, to give preference to the jugular vein for obtaining blood, and moreover, I cannot avoid thinking from the number of fatal cases of this disease recorded, in

which no blood, or but a very trifling quantity could be obtained from any of the other veins, this not being opened, that the lives of many more individuals might have been saved in this disease, had it always been preferred.

Not unfrequently after one full bleeding all the dangerous symptoms of the disease subside, and the child who before seemed every moment about to suffocate, will now breathe easy, and appear nearly restored to health. Although the symptoms should thus suddenly abate, we are by no means to consider the patient out of danger, for often, after all these propitious appearances, they will return, and sometimes even with increased violence. After this subsidence of the symptoms, it will not be requisite to repeat the general bloodletting, still, even here, we ought to follow it up by some of the other remedies about to be mentioned, and to continue their use so long as we conceive there is any danger of a recurrence of the disease.

If by the first bleeding in combination with the other remedies, the symptoms are not mitigated, but remain the same, continue to increase in violence, or even should they subside only in a slight degree, we ought to repeat it, and continue to do it so long as the urgency of the symptoms require, and the strength of the patient will admit. A knowledge of the rapidity of the disease shows us at once, that to gain any benefit from this, it must be repeated at short intervals, as of six or seven hours, or even oftener if the violence of the symptoms demand. We cannot with safety continue to take so large a quantity of blood as at the commencement of the treatment; the physician, however, must be guided in this by the general powers of the child, and the severity of the symptoms.

We come next to speak of local bloodletting. In *cynanche trachealis* this is a remedy of great value, and particularly so when the strength of the child becomes so exhausted from the violence of the constitutional sympathy, and from the first general bleeding. as to render its repetition dangerous, although the inflammatory symptoms continue; under such circumstances, on local bloodletting our greatest reliance must be placed. A small quantity of blood, drawn from the capillary vessels in the immediate neighbourhood of an inflamed part, will often produce equally, or even greater beneficial effects, than a larger quantity taken from the general circulation. Its effects, however, are not so immediate, we obtain the blood more slowly, and in much less quantity, consequently in this disease we ought only to consider it as an auxiliary to general bloodletting, where this last can be safely employed. Instances may sometimes occur in which all the veins, even the jugular, lie so deeply imbedded in the

adipose substance, that it becomes nearly, or quite impossible to open them with the lancet ; here local bleeding must be immediately resorted to, and carried to the greatest possible extent.

Very soon after general bloodletting then, unless the symptoms should be so much relieved as to make it appear unnecessary, we ought invariably to practice local bleeding, and this not unfrequently will prevent the necessity for a repetition of the general bloodletting. The best mode of doing this is by the application of leeches to the external fauces ; and to produce the effect desired, they must be applied in considerable number, as from a dozen to twenty. This mode is to be preferred, first, because it is, in general, most convenient ; second, it is attended with no pain to the patient ; and lastly, it has been said, and if I mistake not, proved by experiment, that the same quantity of blood drawn by leeches, gives more relief to an inflamed part, than a corresponding quantity taken by scarification. The flow of blood may generally be kept up for some time from the orifices which these animals make, by bathing the parts with warm water ; in this way blood may often be obtained in considerable quantity.

Emetics.—These are the remedy next to bloodletting to which we attach the greatest value. They have been held in high repute by most of the best writers on the disease. To be sure there has been some difference of opinion with regard to this, as to almost, or perhaps every other remedy now in use. The most celebrated writer who opposed giving emetics in croup was Dr. Home. Experience, however, still continues, and probably ever will, to give them their deserved rank in the disease. Besides the benefit arising from the evacuation of offensive matter often contained in the stomach, and this is by no means trifling, emetics are the most powerful means we possess of restoring to the inflamed parts their natural secretions, and promoting expectoration, which we know is here of the greatest importance. They aid also, to abate the inflammation by diminishing the action of the heart, and by their tendency to restore to the extreme vessels their natural functions. They also give a peculiar shock to the whole system, seeming to excite in it a new set of actions, to which in many other affections much has been attributed ; and although the benefit arising from this, may not be so great here as in fever, and some other diseases, still we may attribute to it some good.

When an emetic is employed at the very onset of the disease, that is within the first few hours of the attack, it is very generally sufficient to restore to the diseased parts their healthy actions, and thus we may often, without any other remedy, effect a per-

fect cure ; or to say the least, we may in this way lay a foundation for the cure, the disease almost always being more manageable afterwards. According to Dr. Crawford, in a certain part of Scotland where croup is prevalent, it is a common practice as soon as any of its symptoms show themselves, to give an emetic, and he observes that few die when this has been seasonably administered. But whether it would not always be better, if the symptoms of the disease were well marked, and the child robust, to commence the treatment with bloodletting, I submit to the decision of those, who have had a greater share of experience in the disease than myself.

Immediately after general and local bleeding, or general, if local is not thought requisite, an emetic ought to be administered. Ipecacuanha generally speaking, is more certain in its operation than the tartrate of antimony, though for the most part not so effectual ; perhaps it is better to combine the two, adding calomel to move the bowels ; either of them, however, usually answers our purpose very well. The antimony, if used, should be administered in small repeated doses until its full effect is induced. We must by all means produce full vomiting. Should there be any difficulty from the insensibility of the stomach, in producing vomiting by means of the substances mentioned, we may resort for aid to the sulphate of zinc, or copper. After the operation of our first emetic, we should continue during the first and second stages, to give small doses of emetic substances, so as to keep up a pretty constant nausea, and occasional full vomiting. For this purpose preference ought to be given to the antimony, as it operates more powerfully to diminish the action of the heart, than any other substance belonging to the class of emetics. It likewise exerts a powerful influence over the capillary system, diminishing the force of its circulation, and these effects very soon follow its exhibition. For these reasons then this substance seems peculiarly calculated for acute inflammatory affections. Small doses of ipecacuanha have frequently been recommended, either alone, or combined in the form of Dover's powder ; this last, from the opium it contains may do injury, and I feel persuaded, that the antimony should supercede any form of it.

The best way of administering the antimony is in the watery solution, and the doses ought to be repeated at short intervals, especially where the symptoms are urgent. Sometimes from the insensibility of the stomach, we are under the necessity of giving it in quite large doses before it will produce any sensible effect.

Cathartics.—These certainly operate to allay inflammation, and in a way similar to bloodletting, that is by producing an

actual diminution in the circulating fluids ; but their effects are much less speedy, certain, and powerful. Our only object then in their use, is to evacuate the bowels of their contents, and to keep up in them a regular excitement.

If the bowels are costive, it will be proper, as soon as we can without interfering with the bloodletting, to produce a free evacuation of them by injections ; and by doing this, our remedies, and the same thing happens in other diseases, will be much more certain and effectual in their operation.

Since the bowels in this disease are very apt to be constipated, especially during the first stages, we must occasionally as the case requires, administer cathartic medicines, and thus prevent them from being loaded, as they otherwise would, with fecal matter. Calomel answers our purpose very well, it being a very effectual cathartic, particularly in children. Occasionally, from the insensibility of the bowels, it will be requisite to administer quite powerful cathartics, and to aid their operation by means of injections.

Vesication.—This is a remedy in common use, and undoubtedly possesses a good deal of value in this disease. It was formerly, and is now often recommended to apply the blister to the throat ; but as this is the most proper situation for the application of leeches, which answer a better purpose, it ought not to be done. If one blister only is applied, I should prefer to put it on the chest, rather than the back of the neck, which has been frequently recommended, because the lungs so often become affected ; it is less inconvenient, also to the patient. When the symptoms are very urgent it may be necessary to put one on the neck too. If then the symptoms are not very much abated by the first bleeding, a large blister ought immediately to be applied, and the vesication should be kept up, certainly so long as the inflammatory symptoms continue.

The Warm Bath.—This as an auxiliary to the remedies mentioned may be of service. “ It is common with nurses,” observes Dr. Philip, in his treatise on febrile diseases, “ in many parts of Scotland where the disease is frequent, to immerse the whole body in warm water as soon as the disease shews itself, which sometimes, it is said wholly removes it.” It will be very proper to employ this when we can do it and not interfere with our other more powerful remedies ; but should it be likely to produce any delay in the use of these, it ought certainly to be dispensed with. The feet, however, can almost always, and with little difficulty, be immersed in warm water ; this has been thought to be beneficial by promoting a determination of blood to these parts. Sinapisms, and garlic may also be applied to the feet with the same views.

Thus have we brought into view the remedies upon which our principal reliance is to be placed in the cure of this disease, so rapid in its course, and so dangerous in its consequences. If under the assiduous use of these, the symptoms do not abate, but go on to increase in severity, we can hope but little from art, for effusion must soon follow.

During the first stages of croup, the patient's drink should be mild and mucilaginous, and his food, if he requires any, ought to be of the lightest kind, as gruel, barley water, or arrow root. Perhaps it would be better if the disease runs its course rapidly, to abstain in these stages altogether from any kind of nourishment.

In the last stage of cynanche trachealis, when effusion has taken place, our indications are very different. Here the only chance of recovery remaining to the patient, is from the expectoration of the effused matter. Now, since this requires considerable efforts on the part of the child, it seems plain, that our object must be, so to support the powers of the system, that they may be enabled to make the necessary efforts to dislodge this matter, and likewise, that the strength may hold out long enough to give time to effect this. With such views we ought to administer mild cordials, and light nourishment.

To aid the efforts of the child to get rid of the effused matter, we should give emetics, since this class of medicines, from the powerful mechanical action it induces seems the best adapted to detach the membrane when formed, and to effect its expectoration, also the expectoration of any other matter obstructing the air passages. Emetics of the sulphate of zinc, or copper, are to be preferred to ipecacuanha or antimony, since the mechanical action they induce is equally great, and the consequent exhaustion from their operation, less. We must not administer these at short intervals, as the remaining strength of the patient would in this way soon be wasted. No invariable rule can be laid down with regard to the frequency with which these should be given, as we must be so much influenced by the circumstances of the case. We ought seldom, however, to repeat them oftener than once in seven or eight hours. During these intervals, we should endeavour, by cordials, and light nourishing diet, to raise the powers of the system, that they may be enabled to endure the action of our next emetic. We may now and then, also, give expectorants; those of a cordial nature are best; we cannot, however, hope for much from this class of medicines.

Sometimes, in this last stage of croup, a diarrhoea will come on, this we should immediately endeavour to check, otherwise it will soon carry off the child. . But to effect this, we must not, if it

can be done in any other way, give opiates, since these, by diminishing irritability, allay the cough, upon which we in a good measure depend, for the expectoration of the effused matter. The chalk mixture, with an additional quantity of the tincture of cinnamon, is a very good remedy. Other cordial and astringent medicines, however, may be employed, as the practitioner shall prefer.

Sometimes the bowels are quite constipated, when it becomes necessary to evacuate them; for this purpose, mild injections ought to be used.

Often the extremities, and even the whole surface of the body, will feel quite cold; we should then apply stimulating substances. A very good application is one composed of two parts of tincture of soap to one of tincture of flies. In this way we often bring on an increased action in the capillary vessels of the surface, which may aid, in a degree, to keep up the vital energy. Sinapisms, and garlic may also be applied to the feet. As the lungs are so frequently affected, more especially in this stage of the disease, it is better to continue the vesication on the chest.

It now and then happens, even after effusion has taken place, that symptoms of inflammation are still present; when this is the case, local bloodletting may be employed; yet, at the same time, if the strength is much prostrated, it must be supported as well as we can do it, consistently with a regard to the inflammatory symptoms, by the means already mentioned. If the child is robust, and the strength holds out well, it may here sometimes be necessary to employ the same treatment as was recommended in the first stages, even general bloodletting. We cannot employ these means to the same extent, as in the other stages; but the discretion of the practitioner must show how far they may with safety be carried. It is very rare, however, that this practice can be admitted in the third stage of croup.

Such then should be the treatment of the disease when effusion has taken place; yet, though we feel it our duty while life remains, to continue our exertions for the preservation of the child, still there is the melancholy reflection, that we can here hardly hope for success.

There are some other remedies, which, at different periods, have acquired a reputation in this disease; these we shall cursorily notice.

Calomel, at one period, was thought to be almost a specific in croup. Dr. Rush, and others of eminence, placed great reliance on its virtues in this disease. Its use has been thought proper in every stage of the complaint. Generally it has been recommended to be employed in large doses.

We have a number of successful cases of croup recorded, to show the efficacy of this remedy in the disease; some of these, however, are not well marked cases, and in others, many other remedies were employed in combination with this, as bloodletting and emetics; to the effects of which we have much better reasons for attributing the cure. How calomel, which, for the most part, produces its effects so slowly on the system, especially in children,—how this, I say, is to operate in one or two days to cure so violent a disease as croup, seems difficult to conceive. I cannot help thinking, that all the advantage derived from its use in the acute form of this complaint, is owing to its cathartic virtues. In the third stage, on account of its debilitating effects on the system, it would seem likely to be injurious. The greater number of our latest and most accurate observers of the disease, have placed little dependence on this remedy. Dr. Cheyne observes, that he has used it in the second stage of croup without any benefit. If the disease should put on a chronic form, there is undoubtedly a much better chance of its being serviceable. At any rate, if it is used in the acute form of the disease, it seems plain that it ought to be exhibited in large doses, and at short intervals.

The *polygala seneka*, or rattle snake root, at one time acquired considerable reputation in croup, and some physicians now hold it in much esteem. It was first, I believe, introduced to public notice by Dr. John Archer of Maryland, and he seems to have placed great confidence in it. The following is an extract from a letter which he wrote to Dr. Barton relating to this remedy.

“I have in a great many instances found a decoction of the *seneka* the most powerful medicine in the cure of this disease; and I am happy to tell you that it may be depended upon. I make a strong decoction of the root in the following manner, viz. half an ounce of the *seneka* in coarse powder, is boiled in eight ounces of water down to four. Of this I give a tea spoonful every half hour, or hour, as the urgency of the symptoms may require, and at intervals, a few drops to keep up the stimulus, until it either acts as an emetic or cathartic. I then repeat it in smaller quantities, so as to preserve the stimulus of the *seneka* constantly in the mouth and throat.” He says he would not give an ounce of it, as a chance in the cure of croup, for all the emetic tartar, mercury, and cantharides in the United States. Experience, however, does not warrant us in attributing to it the virtues which this gentleman believed it to possess, it having been repeatedly used without any manifest advantage. Dr. Archer, it appears, did not confine its use to any particular stage of the disease, but thought it applicable at any period. Now in the first stages of

croup, from the stimulating properties of this remedy, the employment of it would evidently be attended with danger. It is now used only in the last stage of the disease, and with a view merely to its expectorant powers; as, from the irritation it produces in the throat, it has a tendency to excite cough; and it often, when given to considerable extent, produces vomiting. But its operation is by no means very certain, or powerful; and though we may frequently give it to aid the effects of our emetics, it should never supercede the use of these. I once witnessed a pretty thorough trial of it in the last stage of croup. It increased the cough very perceptibly; it also gave rise to some nausea, and occasional retching.

Digitalis was at one period introduced into practice in this disease, and it has been thought by some physicians an effectual remedy. To prove its efficacy, there are recorded a number of successful cases of croup in which it was employed. It has not, however, stood the test of experience, having now, among the better class of practitioners, wholly fallen into disuse. From the comparative slowness and uncertainty with which its effects on the system are induced, we could hardly look for benefit from it in a disease which runs its course with such celerity.

The cicuta has also been recommended in croup, but I believe we have no well authenticated instance in which it appeared to be of service.

It has been thought that breathing air containing less than its natural proportion of oxygen, might produce a good deal of benefit in this disease, but I do not know whether it has ever been practiced. In the natural state of the atmosphere, we know that the child, from the narrowed state of the air passages is compelled to make powerful exertions to obtain a sufficient quantity of oxygen to operate enough on the blood in its circulation through the lungs to prevent asphyxia. Now if the proper proportion of this principle was diminished, the consequence would seem to be, either that the child must make greater exertions, or be sooner suffocated. Certainly the use of this remedy would be attended with considerable difficulty, and be likely to produce much delay in the employment of other means. Its antiphlogistic powers, too, would appear to be very trifling compared with those of bloodletting.

Many of the different expectorants have been used, and by some in every stage of the disease. Now the employment of most of these in the first stages, from their stimulating nature, would evidently be attended with danger; in the last stage some of them may be used to aid in promoting expectoration. We must be careful, however, not to administer these in so large

doses, and at such short intervals, as to run any risk of exhausting the vital power.

The inhalation of vapours, as of vinegar and water, has been in quite common use in this complaint. We find it recommended in quinsy by many of the ancient physicians, particularly in that kind which was thought to have its seat in the larynx and trachea. Hippocrates recommends it in what he calls the worst kind of quinsy. He ordered nitre, origany, and the seeds of cresses, to be enclosed in an earthen vessel, with equal parts of vinegar and water; these were to be exposed to heat, and the patient was to inhale the vapour which arose, through a hollow reed. Aetius speaks of this remedy in the same affection. He, to avoid burning the patient's throat, advises that a small egg shell perforated at each end, be held in the mouth, into which the end of the reed is to be transmitted, so that the hot vapour, instead of being drawn immediately into the patient's fauces, may first be received into the cavity of the egg shell. This remedy will be very proper if it does not interfere with the others; for though it cannot be expected to aid much in the cure of the disease, yet it will often give some temporary relief. As these vapours are applied directly to the affected parts, in the first stages they ought to be of the mildest kind; in the last stage they may be more stimulating; those from vinegar and water answer very well.

Fomentations of different substances, also various stimulating applications have been recommended for the throat, but this, as was before observed, ought not to be covered; yet even should this be allowable, blisters would be by far the best application.

The last remedy in croup of which we shall speak is bronchotomy. This has generally been considered as a last resort, and has seldom been employed until the fatal termination was at hand.

Bronchotomy was long ago advised to prevent suffocation in quinsies of the worst kind. Hippocrates recommends, when symptoms of suffocation are present, a practice somewhat similar; "*Fistulas in fauces ad maxillas intrudendas esse, quo spiritus in pulmonem trahatur.*" The first, I believe, who is recorded to have practised opening the trachea to give relief in the most fatal kind of quinsy, is Asclepiades, and he placed a good deal of dependence upon it. Aurelianus speaks of the operation in these affections, but condemns it altogether. Aretæus also notices it, but objects to it, principally on account of the danger he supposes to attend its performance.

Boerhaave, after having spoken of the other modes of treatment in inflammatory quinsies, says, "If all these means are ne-

glected, used too late, or not followed with a due effect, the disease being very recent and suffocating, and the seat of the disorder being above the place where the incisions ought to be made, and attended with the worst symptoms but as yet no signs of gangrene appearing; in this case after a severe and doubtful prognostic, bronchotomy must be immediately performed."* Dr. Home recommends this operation as a last resort in croup. Michaelis advises that it be performed early in the disease, that is, as soon as it can be ascertained that other remedies are of no service.

Considerable, of late, has been said relating to the employment of bronchotomy in croup, but it has been mostly agreed among physicians that the chance of cure which it offers is exceedingly small. Within a few years the attention of some medical gentlemen has been particularly directed to it as a remedy in cynanche laryngea, and from the seat of this disease, the operation would seem to promise more than in cynanche trachealis. In Europe it has been performed a few times in cynanche laryngea, and in one instance, or I only know of one made public, it has succeeded.

We have too well authenticated cases where bronchotomy was performed with success in cynanche trachealis. One in the third vol. of the *Med. Chirurg. Trans.* taken from the Inaugural Dissertation of Dr. Thomas White, published at Leyden, in 1786; the other in the sixth vol. of the same work, by Thomas Chevalier, Esq. Mr. Chevalier observes that since this case, he has seen the operation done with great relief to the child, the breathing becoming quite free and easy, death, however, soon followed, which he supposed was occasioned from the debility previously induced by the disease, being too great to be surmounted. In almost all the cases recorded, where this operation was performed, the patients have received some temporary relief from it.

When the inflammation of croup extends into the lungs, the chance of benefit from the operation is of course much less, since the disease in these organs may alone be sufficient to destroy life. In the *Med. Chirurg. Trans.* for 1812, we have the following remarks, by Dr. Farre: "When the Cynanche Trachealis is combined with pneumonic inflammation of whatever kind, then the operation cannot avail. In proportion as the inflammation is extensive, it is less intense in the larynx, and I think it is not difficult to discriminate between the cases, at the period when the operation is required, by the manner in which the respiration is conducted. In the one the difficulty of breath-

ing is evidently that of impending strangulation; in the other, that of deep seated, and extensive oppression." He then goes on to illustrate these remarks by relating two cases of the disease, in one of which there was pulmonary affection, in the other none.

Our view in performing bronchotomy is that air may be admitted to the lungs in larger quantity, and with less effort, than it could be in the natural way; thus the blood in its circulation through these organs, undergoes a more perfect change; consequently the vital powers are not so soon exhausted. The parts then have more time to recover from their diseased actions; there is also a better chance for the membrane, when formed, to become detached and expectorated. Sometimes the operation is done to prevent immediately impending suffocation.

If the operation is determined upon, care must be had not to delay it too long, for should it be thus deferred, the powers of the child will be so exhausted by his efforts to continue respiration, and in consequence of blood partly venous being circulated through the system, that should the respiration be ever so much relieved by it, the effects of the disease could not be recovered from. By doing the operation early we may possibly prevent, in a degree at least, the extension of the disease, and its increase in severity; for the greater are the powers of the system generally, so much the better able will its parts be to resist the approach of disease, and to contend against it when already present. May it not then be one reason why this operation has not oftener been successful in croup, because physicians have too generally been in the habit of considering it their last resort, and have not had recourse to it until the approach of the fatal symptoms?

Van Swieten insists much on the necessity of performing bronchotomy early in those quinsies which have their seat in the larynx and trachea. After speaking of some other remedies he goes on to say; "but when these remedies have not been used, or else applied when the disease has become too violent, or if they have all been tried without any abatement of the symptoms, nothing remains, but the patient must be either delivered up to certain death, or else a passage must be made by art for the air to enter into the lungs." "But," he observes, "that an incision may be made through the windpipe with hopes of success, it is necessary that the disease be recent or not of long standing, for when it has continued any considerable time, there is reason to fear lest the pulmonary arteries have already been stuffed up by impervious blood;" &c. &c. "The most important point," says Mr. Lawrence, speaking of it in *cynanche laryngea*, "is the

time at which the operation ought to be performed ; and this should be as soon the symptoms enable us to determine the nature of the disease. In no case is delay more dangerous ; the patient is constantly exposed to the risk of suffocation, which sometimes comes on very suddenly ; the difficulty of breathing certainly produces so much constitutional disturbance, and the circulation of venous blood through the brain and other organs, causes so rapid an exhaustion of the vital powers, as are of themselves extremely dangerous.”* Many other physicians have spoken in strong terms of the necessity of performing bronchotomy early in the disease, before the symptoms evince a fatal close to be at hand. Some have gone so far as to say it ought to be the first remedy employed in well marked cases of croup. To do the operation then with any hopes of success, I feel persuaded it ought to be done early, that is, as soon as a fair trial has been given to our other remedies.

Relating to the expediency of bronchotomy in *cynanche trachealis*, experience certainly will not warrant me in offering an opinion, yet I cannot help thinking that it would always be justifiable, nay, even proper, where the symptoms do not yield to other remedies, and perhaps we may add, where there are not evident marks of very considerable pulmonary disease. It must not be inferred, however, that much is expected from this operation, on the contrary, the chance of its success I conceive to be extremely small, yet there is a chance, for it has succeeded. Now allowing the chance to be ever so small, is it not our duty to offer it to the individual ? Especially as the operation is so simple, attended with so little hazard, and the child's attention probably would not be much directed to the suffering from it, being so slight compared with that from the disease ? Still farther, I would ask were we even sure it could not save life, would not the chance of relief it offers, in so distressing an affection, and as before stated, it usually does give temporary relief, ought not this I say, in certain instances, to be a sufficient inducement to decide us in its performance ?

* Med. Chirurg. Trans. vol. vi.

Two Cases of Arm Presentation. By J. BIGELOW, M.D.

[Communicated for the New-England Journal of Medicine and Surgery.]

THE two following instances of the presentation of a superior extremity, occurred under very different circumstances in regard to the practicability and necessity of manual aid. The second case may be considered not destitute of value, as it adds a corroborative fact to the doctrine respecting spontaneous evolution, lately brought forward by Dr. Douglas of Dublin.

CASE I.—I was called to a patient, the mother of several children, who had been taken in labour about half an hour before, attended with considerable, and increasing hæmorrhage. On examination I found the os uteri more than half dilated, and a soft, indistinct substance protruding into the vagina. This being ascertained to be the placenta, and the hæmorrhage remaining unabated; it was obvious, that no time was to be lost in attempting the delivery by artificial assistance. I accordingly introduced my hand, which in this case was done without great violence, into the uterus; passing it by the placenta, which by this time was nearly detached from the cervix, where it had been inserted. The first thing encountered was an arm, lying folded up against the ribs. The expulsive efforts of the uterus were much increased by the stimulus of the hand, and the liquor amnii was rapidly evacuating. It required considerable exertion to keep the ground already obtained, and still more to insinuate the hand as far as the feet of the child. It was some time after a foot was felt, before I could approach it near enough to secure the ankle between the extremities of two fingers. As soon as this could be done, the foot was drawn down, the breast of the child being made a fulcrum for the thumb of the operating hand to rest against. The foot readily entered the pelvis and the child was soon expelled, with the other leg folded against the abdomen. The child was of course dead from the early separation of the placenta; but the mother did well. The process of delivery occupied little more than half an hour.

CASE II.—A lady found herself in labour with her sixth child, about a quarter before six in the morning. She had had slight preparatory pains for twenty-four hours, but the first pain which she considered serious, produced the rupture of the membranes. I saw her about twenty minutes after this happened. On examining the os uteri it was found considerably dilated, and the left elbow of the child projecting into the vagina. I immediately resolved on turning; but when the attempt was made,

the waters being evacuated, the uterus closely investing the child and the mouth not being fully dilated nor readily yielding; every effort at introducing the hand was attended with great pain and difficulty; rendering it obvious, that turning could not be effected without extreme violence. Dr. Jackson was now called in consultation, and after due examination of the case and attendant circumstances, it was thought best to entrust the expulsion of the child to nature. By degrees the shoulder was forced down, the acromion presenting, and at length the arm was expelled with the hand toward the sacrum. The pains now become very strong, but no alteration was felt for some time, except that the shoulder passed forward and finally lodged against the arch of the pubis; the arm turning forward and upward. Gradually the integuments of the side under the axilla began to form a protruding tumour, which was felt to increase in size with every pain. The external dilatation was great, and the perinæum a good deal distended. The left half of the abdomen was now expelled, and almost immediately after, by a continuance of the same pain; the pelvis and inferior extremities. So much sooner did this last part of the process take place, than was expected, that I am not able to say whether the pelvis came sideways or with the sacrum first. My attention at the moment of delivery was directed to observe the shoulder of the child, the arm being held by one hand, with the finger on the acromion; while the perinæum was supported by the other. At no time was there the least appearance of the shoulder receding. On the contrary it was rather forced downward than upward, at the moment when the lower half of the body was passing the perinæum. It only remained to liberate the right arm, and head, which soon followed. The umbilical cord had been partially excluded from the body during the last hour of the labour, and for a greater part of this time was without pulsation. Attempts to resuscitate the child proved unsuccessful.

The labour lasted just four hours after the rupture of the membranes. The pains were not so violent, as to have excited any surprise in a case of natural labour. The mother has since done perfectly well. It is proper to add, that the pelvis in this case was peculiarly well formed, and that the child weighed about seven pounds.

Case of Tænia. By JONATHAN SHERWOOD, M.D.

[Communicated for the New England Journal of Medicine and Surgery.]

MR. NYMPHUS STACY, aged about thirty years, came under my care on the 10th day of November, 1818. He informed me, that he had been afflicted with tape worm six years, in the course of which time he had frequent turns of distressing griping pains in his stomach and bowels, and discharged at intervals numerous short pieces, and cucurbitini or single joints. He once took the polypodium filix mas, or male fern, followed by a cathartic of jalap and calomel, which evacuated one piece three-fourths of a yard long, together with a number of single joints; and such was the inactive state of his bowels that he once took five large portions of jalap and calomel, and ten ounces of oleum ricini in the course of one day, without producing much evacuation from his bowels. When he made application to me, he complained of almost constant pain in his stomach and bowels, and was much emaciated, and he almost daily discharged single joints of the worm. Having noticed in the Medical Repository, that Fowler's Mineral Solution had been successfully given in cases of tape worm, by Dr. Joshua Fisher, I had determined to test its virtues in the first case of *tænia* that should occur in my practice. I therefore directed him to take from three to eight drops of the solution once in eight hours, (more than eight drops produced so much irritation in the stomach that he could not go beyond that quantity,) and ten grains of cowhage every evening. He continued the above prescription eleven days, at the end of which time, he informed me that the pain appeared to move lower down in his bowels, and he had not discharged any pieces of the worm since he commenced taking the medicine.

I left him six powders of the following cathartic, viz :

Jalap	20 grs.	} He took one of these portions every two hours, and 3ij. ol. ricini without producing any cathartic effect until he resorted to injections; he then had a very copious stool of slimy mucous like matter, and discharged a tape worm thirteen feet long, it was about as wide and as thick as apron tape, and one end run to a thread like tape. Being suspicious there was more of the worm remaining, I continued the solution; but it produced so many unpleasant symptoms, such as pain in the head and sickness at the stomach, that I discontinued its use, and substituted ol. turpentine. After giving it some days, I gave another cathartic, but it discharged no more of the worm.
Calomel	10 "	
Gamboge	4 "	

The turpentine seemed to produce a very salutary effect by increasing his appetite and improving his health in general. It is now nearly two years that he has remained in good health without a single symptom of the complaint.

Champion, Jefferson County, (N. Y.) August 28, 1829.

Singular Case of Hæmorrhage. By ABRAHAM T. LOWE, M.D.

[Communicated for the New-England Journal of Medicine, &c.]

———, ætat. about 50, has been in feeble health for five years; I did not however examine his case until two years since. His complaint is hæmorrhage from the penis. When I first saw him, I found the penis cleft between the *corpora cavernosa* and *corpus spongiosum*, from the anterior part of the glans, one and a half inch. There appeared, likewise, numerous *cicatrices* in the course of the external veins, some of which were very large and of recent appearance; his pulse was frequent and feeble, his system emaciated, and his countenance languid. The patient is enthusiastic in his religious belief, and having no external means of knowledge, from being entirely deaf and unable to read, has become a perfect fanatic. He gives the following account of his case, viz.—“*Sæpè a Deò mandatus est uxorè potiri venere, et illà recusantè, instantur venæ penis rumpuntur et sanguis copiosissimè effluit!*”

The first hæmorrhage, which was nearly three years since, was comparatively small, preceded, as I am informed by the family, by indigestion, head ach, copious perspiration and pain in the lumbar region, and from many circumstances indicative of extravagant and inconsistent notions of religion, it appears his mind became suddenly alienated. On my first visiting him the discharge occurred once in four or five weeks, usually loosing from one and a half to two pounds of blood at each time. As his habit bore evident marks of debility, I recommended daily exercise, a generous diet, light tonics, and endeavoured to convince him of the error of his “*special revelation*.” This mode of treatment was followed for two months, but with apparent disadvantage; the constitutional health was in no wise improved, and the local irritation was considerably increased. An opposite course was then adopted, consisting of local bloodletting, brisk cathartics, local cold effusion, &c. which was continued ten weeks, but with no more success than attended the former practice. Every

kind of medicine that had been administered seeming to aggravate the complaint, I ordered a tight bandage only to be applied, to be kept moistened with a solution of the acetite of lead; a hæmorrhage, however, occurred in a short time from a principal artery, discharging through the division of the penis, I am informed, and have every reason to believe, more than four pounds. They have returned the last three months about once a fortnight, increasing in quantity each time. The patient is at present extremely emaciated and feeble; his pulse small and languid, his extremities cold, the dyspepsia and pain in the loins increased. When I last visited him he informed me the "*mandata Dei*" were more frequent and commanding, and exhibited a life almost exhausted through the influence of a most unfortunate infatuation.

It may be proper to observe, that the person above alluded to, has ever maintained a character of the strictest integrity and never contracted any habit of dissipation.

Ashburnham, September, 1820.

To the Editors of the New-England Journal of Medicine, &c.

AS the Prussic or Hydro-cyanic acid is now getting into extensive use, in this part of the country, I beg leave to state some observations I have had occasion to make in regard to its unfavourable operation.

The dose usually administered, I believe, is from six to twelve drops. I have begun with four drops, and never increased the dose beyond ten, given twice or three times a day.

The second case in which I employed it, was that of a young lady, considerably advanced in pulmonary consumption. She began with five drops and in the course of a week had increased the dose to seven drops twice a day. When she had thus taken it two or three times, she was, soon after taking a dose, seized with a loss of sense and of motion, and appeared to those around to be expiring. In an hour after, when I saw her she continued insensible and cold, but recovered in eight or ten hours. The weakness produced did not subside for a number of days. At the time this accident occurred, I was not disposed to attribute it to the medicine; but as the patient had no subsequent attack of the same character, during the remainder of her complaint, and took no more of the medicine, I ultimately concluded, that these symptoms had been caused by the Prussic Acid.

A lady of about twenty, affected with a chronic cough and catarrh without ulceration of the lungs; on taking the second dose of five drops was instantly attacked with a strange disturbance in the head, as if, according to her expression, her brain was on fire. She fell and remained an hour in a state of debility without loss of consciousness. The next day she was well as usual. This young lady was possessed of a vigorous intellect, and strong nerves, to use a common expression. Moreover, she had no suspicion she was taking a medicine possessed of any peculiar violence.

A child, seven or eight years old, on taking eight drops for the whooping cough, was directly seized with a general convulsion. It was relieved by the immediate use of an emetic.

Other instances of a similar operation of this medicine have occurred within my knowledge, though not in my practice. But I think that those I have related will be sufficient to put physicians on their guard in the use of a medicine so difficult to manage, and so liable to produce violent and dangerous symptoms.

W.

A Topographical Sketch of Nahant, with comparative meteorological tables for July, August, and September, 1820, with some observations on its advantages as a Watering place. By
WALTER CHANNING, M.D.

[Communicated for the New England Journal of Medicine, &c.]

I HAVE been able to collect but little about the early settlement of Nahant. It appears, that a grant of this peninsula was first made to the whites by a tribe of Indians who inhabited at that time what is now called Lynn. It was used as a pasture for sheep and calves, to secure them from the wolves, which were very numerous at that time. Its security was found in the long and narrow beach by which this place is connected with the main land, which these animals were never known to pass. It was to be held by the settlers for the above purpose, and not to become individual property. It finally passed into the hands of individuals, by the settlement there of some Quakers. They remained there unnoticed and unknown, and became at last legal proprietors by right of undisturbed possession. A portion of Nahant, however, still remains in common, and the inhabitants of Lynn possess the right of pasturage. The means of subsistence are very easily procured at Nahant, and it was easy for its first settlers to remain there independent of their neighbours, and without having any intercourse with them.

That it was inhabited before the memory of the immediate ancestors of the present proprietors, is probable from the circumstance, that within two years, nine human skeletons have been dug up there. Seven of these were found this spring in digging a cellar. They were found lying very near each other, about a foot below the surface. Some of them were buried with the face downwards, with the limbs doubled up. They appeared entire. No knowledge of any bodies having been buried there, exists in the memory of the oldest inhabitants, it having been the universal custom to carry the dead to Lynn for interment.

Nahant was formerly covered with trees. The oldest inhabitant now living, (who was born there,) and is now about eighty years of age, remembers distinctly when there were many stumps to be seen; and they are even now occasionally to be met with. This place has always been celebrated for its fine fish; perch and tautog may in their season, always be taken from the rocks, and sometimes codfish; within two or three leagues, cod, haddock, mackerell, sea bass, halibut, &c. The sea bass were formerly so abundant, that, after a storm, they have been found thrown upon the beach, and been taken away in cart loads as manure. Sea bass are now caught, weighing from fifty to sixty pounds.

The soil of Nahant is fertile in many parts: and there is every reason to believe, that trees will succeed there very well. Within the last year, about 1500 have been set out, many of which are in a thriving condition. The water is very fine, and may be obtained generally at a depth of twenty-five or thirty feet. Some of the best wells are less than twenty feet deep. It has a fresh pond which will supply ice for ice-houses. Two have already been established.

The mineral productions of Nahant are not without interest. The prevailing minerals are *quartz*, *petrosiles*, *hornblende*, *feldspar*, *epidote*, *greenstone*. The epidote is peculiarly beautiful. "The finest specimens are found at Nahant, where it also occurs in the greatest abundance."*

Carbonate of lime occurs in small quantities, both crystallized and amorphous, *crystallized prehnite* and *chalcedony* have been found here this summer. The *sulphurets of copper and iron* are frequently met with. I have in my possession a fine specimen of *magnetic oxide of iron*, which was found here last season. It is crystallized. The form of its crystals is a dodecaedron,

* Outlines of the mineralogy and geology of Boston and its vicinity, by Drs. Dana.

with rhombic faces. The shores abound with pebbles of petrosilex. Pebbles of *sileaceous breccia*, highly polished, of *jasper*, *porphyry*, *agate*, &c. were discovered the last summer. The minerals here enumerated were found on the surface, and are indications of much that is interesting to the mineralogist.

The peninsula of Nahant lies in a north easterly direction, about fifteen miles from Boston. It projects between two and three miles into the ocean. Its shores are very bold, and present, in almost every direction, a grand embankment of broken, **massy** rock. It is elevated about sixty or seventy feet above the level of the sea in the highest parts. This place has long been resorted to in the excessive heat of our summers, on account of its delightful and invigorating temperature. It is only lately, however, that it has afforded any other inducement for visitors than those which belong to its peculiar situation; and it has been rather a place for a day's frolic, than for a summer residence. In these respects, it has undergone some change; tolerable accommodations for a few families may be obtained there, and the sick and convalescent are occasionally among its visitors. To these last, or at least to many of this order, it is capable of being rendered highly useful. You approach it over a fine beach, a mile and a half in length, which, for many hours each day, affords opportunities for a fine bracing drive. The air is perfectly pure, and has a coolness and elasticity in it, to which an inland summer breeze has not the least resemblance. Its effects are highly invigorating; and though it may be at first thought chilling, or too cool, by those who come here exhausted by the heats of the metropolis, to those who have become at all accustomed to it, it is always grateful; and in these it rarely, if ever, checks perspiration or produces colds. Those who object to this situation, on account of the coolness or purity of its atmosphere, have not unfrequently been those who have suddenly left the town on account of excessive heat, and have come totally unprepared for the reduced temperature they would meet with, or, when there, have very incautiously exposed themselves to all its influences.

There are some circumstances in the climate of Nahant, which render it, to the debilitated and convalescent, a peculiarly desirable residence. In the first place, its temperature is comparatively very equable. This depends on a permanent cause, its situation. It is almost surrounded by the sea, and, at the lowest tides, presents an unusually bold shore, or a great depth of water. The temperature of Nahant, therefore, is influenced principally by that of the ocean, and by the winds which sweep over it. Now, between these, there is in some

measure a reciprocal influence, the temperature of both mutually acting on each other. The following facts illustrate the correctness of these remarks. A line drawn from the Boston Light House, on the south, to the extreme point of Marblehead on the north, would intersect Nahant; it extends, therefore, farther into the sea than any other head land in the bay. It is distant from the nearest island in the harbour to the south, seven miles; from the nearest point of south shore, about twelve miles; from the north shore, between two and three miles. It is on this side connected to the main land by a beach a few rods wide. The wind, therefore, from any quarter must pass over an extent of at least three miles of water. In all other directions, the extent of water is great, and, in the southerly and eastern, lies the unobstructed ocean. It is from this quarter the winds in summer prevail, and an almost uninterrupted temperate climate is the result. To these causes of equability of temperature might be farther added the perpetual motion of the vast body of water which almost surrounds the place, and which is thus constantly presenting new masses to its shores. There is in such an arrangement, no time or opportunity for the water itself to receive and retain a certain temperature, and, like land or less changeable bodies of water, influence the climate, either by contributing to render it perpetually hot, or liable to variations by sudden changes of wind. Thus many circumstances favour equability of temperature. To the invalid this is a great point. He is seldom liable to sudden exposure to great changes, and he may, without great anxiety, continue the habits which experience may have proved to be salutary.

The climate of Nahant is not only equable, but it is cool. It is this feature which has constituted its principal attraction. It is a high gratification, a great luxury, to exchange the confined, hot, foul air of a town, for the pure, fresh, exhilarating breezes of the sea shore. The ocean itself, with the clear sky, its extended horizon, its waves, its ceaseless motion, is a sublime and invigorating scene to the man who has by sickness been confined to the narrow limits of a chamber, and to him, too, whose extent of sky has been the width of a street, and his farthest horizon its length. Besides the ocean, Nahant presents a great variety of other interesting prospect. You see, on one side, the village of Lynn, Swanscut, Phillips' Beach, Marblehead, Egg Rock, Baker's Island, and the north shore as far as the high land of Cape Ann; on the other, Charlestown, Boston, the islands in the harbour, part of Dorchester, Braintree, Nantasket and Scituate, with the light-houses of Boston, Scituate, and Baker's Island, forming together a panorama hardly to be equalled in beauty.

The coolness of the climate of Nahant is to the invalid particularly a very important consideration. He finds in it a perpetual inducement to exercise. He finds here some hours in every day in which he may ride or walk, and do either or both, without the risk of injurious fatigue. This fact, though so familiar, deserves particular notice in an enumeration of the facilities for health offered by this situation. Farther, no place on our coast affords so ample, or so admirable opportunities for *sea bathing* as Nahant. There are in the immediate neighbourhood of the village, and not far from a vacant spot on which a very extensive establishment might be erected, excellent situations where every species of baths might be constructed, and in almost every direction other suitable situations may be found. What more is wanted to render this place a most desirable residence for invalids during the excessive heat, the variable atmosphere, the impure air of our summers in town? It wants *accommodations*. For a long time the only accommodations offered visitors, were a few chambers in the houses of individuals, who would not make their houses public, and regarded themselves as conferring a great favour by taking a few boarders. At length parties for the day were received, and now almost every house in the village is a boarding house. Till very lately the whole peninsula, with the exception only of some commons, was owned by a few individuals, and they could not be induced, upon any conditions, to sell any part of it. A purchase, however, was effected a year or two since, by a gentleman in town. It is a fine commanding spot, and is already occupied by a house and plantation. These facts are mentioned in this hasty sketch, because, notwithstanding the increased accommodations of the place, they are still very disproportionate to the demand; secondly, because much that this place presents has hitherto been neglected; and thirdly, because an opportunity now offers, and for a limited period only, for the public to avail itself by a purchase of land, of a vast variety of facilities, hardly to be found elsewhere, both for amusement and health. At the time of the above-mentioned purchase, or not long since, an offer was made of a still larger, and equally desirable portion of land. The period for purchase is limited to March 1821, and, unless concluded before that time, an opportunity will be lost which may never again be offered. This circumstance, with all that has been alluded to as peculiar to the place itself, has led the writer of this communication to obtain as accurate information, as circumstances allowed of, concerning the climate of Nahant, in relation to heat, moisture, prevailing winds, rains, &c. This could be only done by meteorological observations judiciously conducted. A very intelli-

gent friend, who passed the last summer there, has furnished him with tables for July, August, and September, and their accuracy may be relied on. The thermometer employed is a very good one, and has occupied the same situation the whole season, in a hall thirty feet long by fourteen wide, and excluded from the direct or radiated heat of the sun.

It is much to be hoped, that the purchase of the land will be effected, and an establishment made at Nahant in some degree proportionate to the local advantages of the place. It will be no objection to the plan, that a great hotel will attract great crowds of company, and that the necessary confusion and noise of such an establishment would be a serious annoyance to the convalescent. A well ordered hotel is not necessarily tumultuous or confused, and, in one properly managed, there is something positively salutary in the excitement of a gay and happy society. So true is this, that much of the good derived from visits to our more fashionable watering places has been attributed, by sensible physicians, to the salutary effects of its dissipation or amusements. The establishment proposed should have connected with it the best accommodations for seabathing. Some little difficulty has been experienced, in what has already been done there in this way, from the occasional violence of the wind and sea. This, however, could with proper care be avoided, and, at all events, if it be found impracticable to secure permanent baths from the violence of the storms of winter and spring, it would be perfectly easy to use the bathing-machines employed in other similar situations, in Europe and America.

No establishment will be complete, or very successful, without ample and safe accommodations for sea bathing. To render this place still more attractive, and still more useful, boats should be provided and constructed in an especial manner for the convenience of the sick and convalescent, and a solid pier or wharf should be built in the neighbourhood of the hotel for their farther convenience and safety. There is at present no suitable or hardly safe landing-place on the whole peninsula. I have spoken of indispensables to the establishment in question. All that would be ornamental, and add to its attractions, as cultivated grounds, fruit and other trees, shrubberies, &c. may be gradually supplied.

Whatever the plan be, however, which may be adopted, none probably will be very successful which does not offer ample accommodation for the healthy, the gay, and the fashionable, as well as for the sick and convalescent. It seems absolutely necessary, that a watering-place should receive the patronage of fashion, in order that its various means of usefulness should be

brought into operation, and it has before been remarked, that the remedial influences of such places, owe much of their power to the intellectual excitement they produce, and sustain.

It will now be asked, has a residence at Nahant been found instrumental in promoting or relieving disease, and in what cases have its influences been most beneficial? The first question, I have no hesitation in answering unequivocally, in the affirmative. Children who have been remarkably susceptible of the diseases of advanced summer, and to whom the whole of the hot weather has been very unfriendly, have experienced at Nahant uninterrupted and even robust health. The health of infants and children who have been born in this place is proverbial. The oldest inhabitant does not recollect an instance of death in infancy or childhood in such individuals. The salutary effects of this climate in preventing disease are not confined to children. I know several adults who have also experienced them. In relieving or curing disease this place has frequently been instrumental. The effects on those who have made the experiments of a residence here, have in some instances been very striking. Cases of perfect relief, in cases of extreme exhaustion from disease, and in others where the symptoms of disease still continued, have occurred, within the writers knowledge the last summer. In some of these the amendment took place in a very short time.

What are the diseases for which this residence seems most appropriate? This question can be but imperfectly answered. The facts are not yet sufficiently numerous in relation to any particular affection, or any classes of diseases, to enable me to give a full answer. This, however, is true, that patients have gone there in an almost hopeless state of exhaustion, from a variety of causes, and have there experienced every marked relief.

There are three classes of affections, in which, a residence at Nahant has been found beneficial. First—in those of weaning children, suffering the diseases of dentition, and during hot weather. Second—in the dyspeptic complaints of adults. Third—in the debility and emaciations, with which some organic affections are attended. For the various cutaneous diseases, and the chronic enlargement of glands attendant on the scrophulous diathesis, in which sea bathing, and a fine bracing atmosphere are beneficial, this is an highly eligible situation.

It is hardly to be expected, nor is it desirable, that Nahant should suddenly acquire the reputation, that the various mineral springs in this country enjoy. The faith in the healing virtues of these springs is even ludicrous. A man, within the writers immediate observation, attended daily at the high spring at Ballston,

to immerse in its waters his fore finger which had been rendered permanently stiff, apparently by local injury. This was an affection of long standing, but was seriously believed to be within the limits of the curative effects of the spring.

The object of this paper is to furnish physicians with some facts with regard to a climate which appears to offer decided advantages in various affections of the body. We have, at least in this part of the country, but rarely availed ourselves of the opportunities of health, which our proximity to the sea shore so abundantly offers us. This very proximity may be the reason of the neglect; and an argument too, for flying to the interior to recover from the consequences of diseases induced in the metropolis. The situation of Nahant, however, has been shown to be very peculiar, and as far as observation of the climate goes, it exceeds any place in this neighbourhood in the *coolness* and *equableness* of its atmosphere. These are circumstances most valuable in climate, and they are peculiarly important to those who live in a situation like Boston, at the head of a Bay, and receiving during the summer, in its prevailing winds, the accumulated heat of a whole continent.

In the annexed tables the hours of observation are not the same for both places. There were four observations a day at Nahant, and only three in Boston. A comparison of those at noon and at *three p. m.* at the former place, with those at *one p. m.* at the latter, will be an approximation towards the comparative temperature at the two places. There is *apparently* but little difference in the mean temperatures of the three months in either place. In July for instance, they are the same; and in August the difference is in favour of Boston in regard to coolness. This arises entirely from the difference in the hours at which the earliest and latest observations were made in each day. Thus in Boston the earliest observation was made at sunrise, the coolest hour in the twenty-four; and the latest, at ten at night; while at Nahant, the first observation is at eight a. m. at which a considerable increase of temperature is always observable from what existed at sunrise; and the last at eight p. m. at which a little variation only is observable from what existed at midday, or at eight o'clock. Thus the mean heat at Nahant at eight a. m. in July, is 73° of Faren. the mean heat at eight p. m. is $73\cdot2$ while the mean at noon and at three p. m. is $75\cdot7$, $75\cdot8$, giving $74\cdot4$ as the mean for the month. At Boston, the mean at sunrise is 69° at one p. m. 82° , the greatest mean heat for the month being 85° and the mean of the latest observation, viz. at ten p. m. is 72° being within 1° of the earliest and latest at Nahant, although one of these was made after the sun had been risen four hours, the

other just at sunset. Thus the noon observations are entirely in favour of the superior coolness of Nahant, and the fact of the mean heat of the month being the same in the above tables, is satisfactorily explained by the hours at which the temperature of the two places was observed. If we enter into a little more detail, the superior coolness at Nahant, will be abundantly proved. Thus it appears from the tables, that there were twenty-two days in July, in Boston, in which the heat at one p. m. was at or above 80° , one in which it was 95° , and one at 92° . There were eight days in which the greatest heat was at or above 90° in one of which the mercury stood at 98° . At Nahant there were only seven days in this month, in which the mercury rose as high as, or was above 80. The greatest heat by the tables was on the 25th July, the mercury rising that day to 86° at three p. m. In Boston it was 87° at one p. m. on the same day, and the greatest heat was 90° . The variation on this day was very remarkable at Boston. The mercury was at 60° at sunrise, making a difference of 30° in the temperature of one day.

There is a feature in the climate of Nahant which has not been noticed. I refer to its effects on the system when the greatest heat is indicated by the thermometer. The individual whether in health or not, rarely experiences, the extreme lassitude and exhaustion which is the common attendant of protracted heat in interior situations. This does not seem altogether owing to the shorter duration of a temperature higher than ordinary at Nahant, but to the native elasticity of the air which continues to characterize its atmosphere even during comparatively great heat.

It should also be remarked, that there occurs at the place a very noticeable difference of temperature in the evening and night. These are uniformly cooler than the day. This fact of an uniform, not sudden and unexpected diminution of temperature, at these periods, would render it perfectly easy to guard against its effects, were they prejudicial. It has been observed, however, by those who have passed a whole season at the place, that at least as far as they have experienced it, this diminution of temperature has not been injurious. This is easily explained by the proximity of Nahant to the ocean, and by the tone and vigour of the body, which a residence here produces.

In the preceding pages, a few remarks have been hazarded, concerning the diseases, or states of system which have received benefit from a residence at Nahant. Nothing was said of those which might not be benefitted, but which might be increased by such residence.

This is an important subject, but facts are wanting to furnish any thing positive about it. The affections which at first sight would seem liable to increase in such a climate, are some forms of pulmonary disease, in which a bracing climate, and variable as to moisture, is found to increase the stricture and pain in the chest, and to add to the violence of the other symptoms. Cases are occasionally met with of this kind in which a residence near the sea shore is decidedly prejudicial.

NOTE.—For the following Tables, I am indebted to my friend Dr. HALE, for those of Boston ; and to SAMUEL CABOT, Esq. for those kept at Nahant.

METEOROLOGICAL TABLE.

BOSTON, JULY, 1820.

Days.	Sunrise.		1 P. M.		10 P. M.		Greatest heat in 24 hours.	Greatest cold in 24 hours.	Faces of the Sky.		
	Temp.	Wind.	Temp.	Wind.	Temp.	Wind.			Sunrise.	1 P. M.	10 P. M.
July 1	75	W	80	NE	71	SW	85	71	Fair	Fair	Fair
2	68	E	73	E	66	SE	75	66	Fair	Fair	Fair
3	60	SW	86	SW	72	SW	88	59	Fair	Fair	Fair
4	70	SW	89	SW	74	SW	90	68	Fair	Fair	Fair
5	74	SW	35	SW	79	SW	98	72	Fair	Fair	Fair
6	74	SW	86	E	77	SW	92	73	Fair	Fair	Fair
7	73	SW	88	S	72	SW	92	72	Fair	Fair	Fair
8	71	SW	87	SW	74	SW	88	70	Fair	Fair	Fair
9	71	SW	88	SW	75	SW	90	70	Fair	Fair	Fair
10	70	SW	76	E	69	E	78	69	Fair	Fair	Fair
11	67	NE	70	E	65	E	78	65	Fair	Fair	Cloudy
12	66	SW	88	SW	75	SW	91	65	Fair	Fair	Fair
13	74	SW	92	SW	76	SW	95	73	Fair	Fair	Fair
14	74	S	85	W	74	W	87	74	Cloudy	Fair	Showers
15	73	SW	79	NW	74	W	81	73	Cloudy	Fair	Showers
16	69	SW	81	S	72	S	82	69	Fair	Cloudy	Fair
17	70	SW	80	SE	72	SW	84	69	Fair	Fair	Fair
18	69	SW	88	SW	74	SW	90	68	Fair	Fair	Fair
19	71	SW	85	E	71	W	87	71	Cloudy	Fair	Cloudy
20	67	N	73	E	66	E	78	66	Cloudy	Fair	Fair
21	65	SW	73	SE	66	SW	74	63	Cloudy	Fair	Fair
22	60	NE	73	E	64	E	75	60	Fair	Fair	Fair
23	60	NW	72	E	63	E	73	60	Fair	Fair	Fair
24	58	SW	72	E	64	SW	72	57	Fair	Fair	Fair
25	60	SW	87	SW	77	SW	90	57	Fair	Fair	Fair
26	73	SW	85	SW	73	SW	85	73	Cloudy	Fair	Fair
27	74	SW	82	SW	72	SW	83	72	Cloudy	Fair	Fair
28	70	SW	84	SW	76	SW	86	70	Fair	Fair	Fair
29	73	SW	83	SW	75	SW	83	73	Showers	Fair	Rain
30	71	SW	82	SW	73	SW	83	71	Fair	Fair	Fair
31	70	W	83	W	76	SW	86	70	Fair	Fair	Fair
Means	69		82		72		85	68			

Mean temperature of the month by three observations
each day - - - - - 74°

Mean temperature by the extremes of each day - - - 76°

Depth of Rain during the month - - - - - 4.19 in.

METEOROLOGICAL TABLE.

NAHANT, JULY, 1820.

Days.	8 A. M.		NOON.		3 P. M.		8 P. M.		Remarks.
	Temp.	Wind.	Temp.	Wind.	Temp.	Wind.	Temp.	Wind.	
July 4	75	S	80	S	84	SSW	77	SSW	Clear & pleasant
5	74	SSW	85	SSW	83	S	79	S	Clear & pleasant
6	76	Calm	78	E	79	SE	75	S	Clear, moderate
7	73	S	77	E	73	E	72	SE	Clear & pleasant
8	73	S	75	E	75	SW	74	SW	Cloudy and hazy
9	74	WSW	78	SW	81	S	74	SW	Clear & pleasant
10	74	Calm	72	E	72	E	71	SE	Hazy morn. cl. n.
11	69	E	67	Calm	70	Calm	68	SE	Occasion'ly foggy
12	72	Calm	76	S	80	S	75	S	Clear & pleasant
13	77	Calm	82	S	83	SW	78	SW	Clear & pleasant
14	73	S	74	S	77	S	75	S	Cl'dy morn. cl. n.
15	74	S	73	E	76	S	74	SW	Foggy morning
16	73	Calm	75	SE	74	E	73	SE	Clear, fly'g clo'ds
17	72	E	73	SE	72	SSE	72	S	Foggy morning
18	73	SSW	78	SW	74	SW	73	SW	Clear & pleasant
19	78	SW	79	SW	76	SW	74	SW	Clear & pleasant
20	72	Calm	73	E	74	E	71	SE	Clear & pleasant
21	69	SE	70	SE	69	SE	68	SE	Clear & pleasant
22	69	E	69	NE	69	NE	69	E	Clear & pleasant
23	71	WNW	69	NE	69	NE	68	NE	Clear & pleasant
24	73	SW	75	SW	68	E	68	SE	Clear, c'd & chil
25	71	SW	79	SW	86	SW	82	SW	Pleasant all day
26	74	SE	78	Calm	75	E	73	SW	Clear & pleasant
27	74	Calm	78	Calm	75	SW	73	Varia.	Close, show'rs af
28	73	SW	78	SW	77	WSW	74	W	Clear & pleasant
29	73	S	73	SE	73	E	73	Calm	Fog. mor. sh's af
30	75	S	77	Calm	79	SW	73	SW	Varia. small rain
31	74	SW	80	WSW	82	SW	76	SW	Clear & pleasant
Means	73		75.7		75.8		73.2		

Mean temperature of July, from 4th to 31st, 74.4.

METEOROLOGICAL TABLE.

BOSTON, AUGUST, 1820.

Days.	Sunrise.		1 P. M.		10 P. M.		Greatest heat in 24 hours.	Greatest cold in 24 hours.	Faces of the Sky.		
	Temp.	Wind.	Temp.	Wind.	Temp.	Wind.			Sunrise.	1 P. M.	10 P. M.
Aug. 1	67	NE	74	E	67	WN	76	67	Showers	Fair	Rain
2	65	NW	80	NW	71	SW	82	65	Fair	Fair	Fair
3	63	W	76	W	67	W	79	63	Fair	Fair	Fair
4	65	W	78	SW	73	SW	81	65	Fair	Fair	Fair
5	69	SW	79	SW	67	NW	82	67	Fair	Cloudy	Fair
6	61	NW	70	NW	65	SW	71	61	Fair	Fair	Fair
7	62	W	73	E	66	SW	74	62	Fair	Fair	Fair
8	60	SW	72	SE	69	SW	74	59	Fair	Cloudy	Fair
9	67	W	83	W	75	SW	75	67	Fair	Fair	Fair
10	71	W	78	E	75	SW	88	71	Fair	Fair	Cloudy
11	73	NW	74	E	73	SE	77	71	Fair	Fair	Fair
12	72	SW	89	SW	78	SW	92	71	Fair	Fair	Fair
13	74	W	85	NW	70	N	86	70	Fair	Fair	Fair
14	65	N	70	NE	63	NE	71	68	Fair	Fair	Fair
15	60	NE	68	NE	64	NE	70	59	Cloudy	Cloudy	Cloudy
16	62	E	69	E	63	E	70	60	Cloudy	Fair	Cloudy
17	63	SE	70	N	64	NE	73	60	Rain	Fair	Cloudy
18	63	NW	76	NW	66	SW	77	63	Cloudy	Fair	Fair
19	60	NW	73	NW	66	NW	75	59	Fair	Fair	Fair
20	60	NW	76	NW	61	NW	77	59	Fair	Fair	Fair
21	55	NW	71	NW	64	NW	73	55	Fair	Fair	Fair
22	57	NW	77	NW	65	NW	78	55	Fair	Fair	Fair
23	60	NW	74	SE	67	SE	76	59	Fair	Fair	Fair
24	62	SW	76	SW	67	SW	77	61	Fair	Fair	Cloudy
25	64	S	73	E	68	SE	75	64	Fair	Fair	Fair
26	67	SE	78	S	71	SE	79	67	Cloudy	Fair	Fair
27	65	E	75	E	70	NW	75	64	Cloudy	Fair	Fair
28	62	N	70	E	64	E	71	62	Cloudy	Fair	Fair
29	59	NW	72	E	65	NW	72	58	Fair	Fair	Fair
30	61	NW	73	E	65	NE	73	61	Fair	Fair	Fair
31	62	E	71	E	67	E	71	61	Cloudy	Fair	Fair
Means	64		75		68		76	63			

Mean temperature of the month by three observations
each day - - - - - 69°

Mean temperature by the extremes of each day - - - 69°

Depth of Rain during the month - - - - - 5.15 in.

METEOROLOGICAL TABLE.

NAHANT, AUGUST 1820.

Days.	8 A. M.		Noon.		3 P. M.		8 P. M.		Remarks.
	Temp.	Winds.	Temp.	Winds.	Temp.	Winds.	Temp.	Winds.	
Aug. 1	72	SW	73	Calm	72	Varia.	71	SW	Hard rain, P. M.
2	72	W	77	SW	76	SW	72	WSW	Clear pleasant.
3	71	WSW	74	W	75	SW	73	SW	Clear do.
4	70	SW	73	SW	75	Varia.	71	SSW	Cl. mo. sh. P. M.
6	70	S	75	SW	75	NW	72	W	Hard Rain, P. M.
7	69	N	67	NE	66	ENE	69	SE	Clear pleasant.
8	69	E	71	Calm	70	E	69	Varia.	Hazy mor. ev. cl.
9	69	E	69	E	69	E	69	E	Cloudy & variable.
10	72	W	76	WSW	79	SW	74	S	Clear pleasant.
11	78	SW	78	E	74	E	74	W	Clear mo. rain af.
12	70	S	69	E	71	ESE	71	Varia.	Calm, fog. morn.
13	74	SW	81	SW	84	SW	79	SW	Clear pleasant.
14	77	SW	80	SW	79	SW	75	SW	Clear do.
15	72	Calm	69	NE	68	E	68	SE	Clear do.
16	67	N	68	NNE	67	NE	67	NE	Cloudy wind high
17	67	NE	70	SE	69	ESE	68	SSE	Hard Gales, rain.
18	67	Calm	68	ENE	70	SE	71	S	Clear pleasant.
19	68	WNW	70	NW	70	E	69	SW	Pleasant mild wth
20	70	NW	75	NW	74	NW	72	WNW	
21	65	NW	69	NW	71	SW	69	SE	
22	71	NNW	71	SSE	70	SE	69	SSE	Clear pleasant.
23	70	Calm	70	SE	70	SE	69	SE	Hazy, light airs.
24	69	SSE	71	SE	72	SE	70	SSE	Pleasant weather.
25	69	Calm	71	E	70	SSE	69	SSE	Moderate vari. w.
26	68	Calm	71	SE	73	S	72	S	Fog. mo. pla. ev.
27	69	SE	71	S by E	71	SSE	70	S	Hard rain, mod.
28	68	NNW	69	NE	70	ENE	69	ESE	Cloudy vari. wth.
29	69	NNW	70	ESE	71	SE	69	SW	Clear pleasant.
30	70	NNE	70	ESE	71	SE	70	SSE	H'zy mo. lgt. airs.
31	69	E	69	ENE	70	E	70	SSE	Hazy, fogs, f'g cl.
Means.	70.3		72.7		72		71.5		

Mean temperature of August, by four observations, from
1st to 31st with the omission of the 5th,

71.6

METEOROLOGICAL TABLE.

BOSTON, SEPTEMBER 1820.

Days.	Thermometer.					Winds.			Faces of the Sky.		
	Sunrise.	1 P. M.	10 P. M.	Greatest heat in 24 h.	Greatest cold in 24 h.	Sunrise.	1 P. M.	10 P. M.	Sunrise.	1 P. M.	10 P. M.
Sept. 1	67	76	65	78	65	SW	SW	NW	Fair	Fair	Fair
2	60	71	62	72	59	NW	NW	NW	Fair	Fair	Fair
3	55	69	62	70	53	NW	E	SW	Fair	Fair	Fair
4	60	80	69	82	58	SW	SW	SW	Fair	Fair	Fair
5	67	82	72	84	67	SW	S	SW	Fair	Fair	Fair
6	67	86	75	88	66	SW	SW	SW	Fair	Fair	Fair
7	67	70	65	71	65	NE	NE	NE	Fair	Fair	Fair
8	65	80	72	85	64	SW	SW	SW	Cloudy	Fair	Fair
9	67	88	76	89	67	SW	SW	SW	Fair	Fair	Fair
10	73	90	79	92	73	SW	SW	SW	Fair	Fair	Fair
11	73	87	77	88	73	SW	SW	SW	Fair	Fair	Cloudy
12	76	76	65	82	65	SW	SE	NW	Fair	Cloudy	Fair
13	60	71	59	72	59	W	NW	NW	Fair	Fair	Fair
14	53	67	64	72	53	NW	NE	S	Fair	Fair	Cloudy
15	60	67	65	68	59	N	NE	S	Cloudy	Fair	Fair
16	61	75	68	76	59	SW	SW	SW	Foggy	Fair	Fair
17	67	80	63	83	67	SW	SW	SW	Fair	Fair	Fair
18	67	70	63	75	63	SW	E	E	Fair	Fair	Foggy
19	60	53	51	63	51	NE	NE	NE	Cloudy	Rain	Rain
20	49	60	45	60	45	N	NE	NW	Cloudy	Fair	Fair
21	40	53	44	53	40	NW	E	NW	Fair	Fair	Fair
22	41	53	51	58	40	SW	W	SW	Fair	Fair	Fair
23	48	66	58	67	48	SW	S	S	Fair	Fair	Fair
24	60	70	57	71	57	S	SW	SW	Cloudy	Fair	Fair
25	52	69	48	69	48	SW	NW	NW	Fair	Fair	Fair
26	39	52	45	52	39	NW	E	NW	Fair	Fair	Fair
27	41	63	53	64	41	W	SW	SW	Fair	Fair	Fair
28	49	61	54	62	47	SW	E	E	Fair	Fair	Fair
29	50	62	52	63	47	NE	NE	NE	Foggy	Fair	Cloudy
30	50	73	54	74	48	SW	NW	NW	Cloudy	Fair	Fair
Means.	57 $\frac{1}{2}$	70 $\frac{2}{3}$	61 $\frac{1}{3}$	71 $\frac{1}{3}$	56 $\frac{1}{3}$						

Mean of the month by three observations each day, - - 63

Mean of the month by the extremes of each day, - - - 63 $\frac{1}{2}$

Amount of Rain, - - - - - 2.43

METEOROLOGICAL TABLE.

NAHANT, SEPT. 1820.

Days.	8 A. M.		Noon.		3 P. M.		3 P. M.		Remarks.
	Temp.	Winds.	Temp.	Winds.	Temp.	Winds.	Temp.	Winds.	
Sept. 1	69	SSW	76	SSW	76	SW	70	NW	Close dog day.
2	68	NW	69	NW	70	NE	69	S	Clear pleasant.
3	69	E	68	EbyN	69	E	69	ESE	Clear do.
4	70	W	74	S	75	SSW	73	SW	Clear do.
5	70	W	75	SSW	76	S	74	SSW	Clear do.
6	74	W	77	W	81	W	76	W	Clear do.
7	72	NE	67	NE	67	ENE	69	E	Clear.
8	69	W	76	W	79	WSW	75	SW	Clear.
9	73	W	82	W	83	W	77	SW	Clear.
10	76	SW	83	SW	86	SW	79	SW	Clear.
11	76	SW	79	SSW	79	WSW	74	WSW	Clear.
12	75	S	75	SSE	74	NNW	71	NW	Hard gales.
13	67	W	70	WSW	72	WSW	68	WSW	Clear.
14	69	N	65	ENE	65	E	66	SE	Clear.
15	66	ENE	66	ESE	67	SE	65	SSE	Clear.
16	66	SW	71	SSW	71	SSW	69	SSW	Clear, fog. morn.
17	71	SW	76	SW	75	SW	72	SW	Clear.
18	71	W	68	E	68	E	66	E	Clear AM. f. PM.
19	65	NE	63	NE	65	E	65	NE	N. East storm.
20	63	NNW	62	N	63	N	62	NNW	Clear and windy.
21	57	NW	57	N	53	NE	53	SE	Clear.
22	64	SSW	64	SSW	64	SSW	63	SW	Clear.
23	67	SW	67	SW	65	SW	60	SSW	Clear.
24	63	SW	73	SSW	73	SW	63	W	Clear.
25	65	SW	69	SW	68	SW	63	NW	Clear.
26	60	N	61	NE	60	NE	60	SE	Clear.
27	60	SW	62	SE	62	SE	63	SSE	Clear.
28	61	N	62	E	63	E	64	ESE	Clear.
29	62	NE	61	NE	60	NE	60	NE	Cloudy & variable.
30	62	WSW	67	SW	70	SW	60	WSW	Clear.
67.3			69.2		69.9		67.2		

Mean temperature of September, by four observations, 68.4.

Observations on the Treatment of Fracture of the Thigh Bone.—

By JOSIAH F. FLAGG, M. D. [With a plate.]

[Communicated for the New-England Journal of Medicine, &c.]

THE best mode of treating a fracture of the thigh, appears to have been a subject of much inquiry, and one which is still more unsettled among the first surgeons in Europe and in this country, than that of the treatment of any other fractured bone. For, aside from minor particulars, in which almost every surgeon will have something peculiar, there are two grand, approved plans, with their modifications,* for the treatment of this injury; and these differing essentially, both in mode and principle, though the object to be effected is unquestionably the same.

These cases of fracture, though simple in their nature, are of such rare occurrence, that in this country, few surgeons have an opportunity of practically satisfying themselves with respect to the efficacy or advantage of any particular mode of treatment. All plans have been acknowledged to fall short in some degree of effecting the objects for which they were intended. Mr. Pott's method, though recommended in most modern, practical works, written in our own language, and practised, as I believe by most English surgeons, is still allowed to be defective, even by those who advocate its principles and urge its use. This method has been generally adopted in this country, and we often witness its evil consequences. That of Desault, is now practised by many of our best surgeons, some of whom have witnessed its important effects in the hospitals in France, where it is still the prevailing plan in use. This, however, does not ensure that perfect success which is desired.

When the thigh bone is broken obliquely above its middle, the difficulty of reducing the fracture is allowed to be greater in proportion to its proximity to the superior extremity of the bone; and greatest, when it takes place in its neck. Relying, therefore, in such cases, on the experience of our ablest guides, we have little reason to hope that it will be in our power to keep the fractured ends of the bone in place till a perfect union be effected. For we are told, that after all our efforts for the benefit of our patients, we must in most cases expect a deficiency in the length of the limb.

I shall not expect to shew, in a perfectly satisfactory manner, that this is a consequence which may *always* be prevented; but

* Those of Pott, and Desault, varied by Bell, Physick and some others.

believing that it may more generally be avoided, I shall endeavour to explain why we so often fail in producing the desired effects by Desault's plan of treatment, which I think is the only one calculated to ensure success. I shall also suggest such alterations in the construction and application of his apparatus for extending the limb, as I think will be found of importance in rendering it more effectual, and at the same time more convenient for the surgeon, and comfortable for the patient.

What then are the primary and important objects to be effected in the treatment of this injury? Are they not to place the limb in a natural position, bring the fractured ends of the bone into their proper situation, and to secure them so that they will remain in this state until they become perfectly united? The first of these objects we may obtain, whether the limb be placed in a straight or crooked position; but the others are not so perfectly within our reach.

It is well known, that Mr. Pott's method, or the crooked plan of treatment, is that in which we are directed to place the limb on its outer side, in a state of semi-flexion, both with respect to the hip and knee joints; and to keep the patient partly on his back, inclining to the fractured side.—Or, according to Mr. Bell's improvement of this plan, to place the patient on his back, with the limb laid over a machine which is so contrived as to have two inclined planes of board meeting in a line under the ham; these to be elevated at pleasure, by means of their connection with another plane board which lies on the mattress or bed. These two inclined planes are of such length as to allow the foot to hang unsupported at the lower end of one of them, while the pelvis is in a degree pending on that of the other. To this instrument are added the necessary cushions, splints, bandages, &c. in the same manner as when it is not used.

The theory in support of this plan is, that by the flexion of the limb the muscles are so much relaxed, that the parts of the fractured bone being replaced, no continued extending force is necessary to keep them in a proper situation, there being no active power of the muscles to overcome; or, that if the limb be placed on the above mentioned instrument, all necessary extension will thereby be made.

The ill success which often attends this practice sufficiently shews that the theory is in some way erroneous. The common fault, a deficiency in the length of the limb, must be the consequence of some common but powerful cause; for it happens alike under the eye of the veteran and the inexperienced surgeon. I shall not therefore be thought presumptuous in stating what appears to me to be the probable cause of failure in this mode

of treatment, and in endeavouring to expose any error which may appear to exist in the theory on which this practice is founded.

In examining the arguments of Mr Pott in support of his plan, we should be led to suppose, that he had no doubt but that by a due degree of flexion, all the muscles, which could operate to displace the fractured portions, and thereby shorten the limb, would be put in a state of perfect relaxation. This, however, can never be the case while the parts to which the opposite extremities of the muscles are attached, are so far distant as they must be in every position in which the limb can be placed when in a sound and natural state : and therefore, although *some* of the muscles may be perfectly relaxed in a case of fracture or dislocation, they cannot *any* of them be in this state, after a sufficient extension has been made in any direction, to bring every part to its proper place of adaptation. If then the muscles do act at all, what must be their tendency? Certainly to displace the parts and shorten the limb. And this will happen more or less, according to the degree of action produced by the stimulus of pain, the influence of the will, spasmodic contractions, and other incidents to which injuries of this kind are liable.

Further, it is of much consequence to inquire, whether, on the important principle of relaxation of the muscles, so much advantage is gained as has been supposed, by the crooked position of the limb. It is allowed by most surgeons that when the thigh bone is broken in its middle, or below, there is little or no danger of derangement from contraction of the muscles ; and the limb may be placed in a natural position, either straight or crooked, and dressed with the common short splints and bandages.

But when the fracture is much above the middle, and the limb shortened, the effect is very justly attributed to a contraction of those muscles which arise from different parts of the pelvis, and are inserted into the inferior portion of the broken bone, and the superior extremities of the bones of the leg.

Of the muscles most active and efficient in producing this mischief, writers enumerate the semitendinosus and membranosus, biceps flexor. sartorius, gracilis and triceps adductor. And to these might be added the rectus femoris, and in some instances the cruræus. To place the limb in such a position as to give these muscles, or a majority of them, the least power, is an object of the first importance in the treatment of a fractured femur.

What the *proportionate degree* of action is, in any particular muscle or muscles, in the various positions of the parts to which such muscles may be attached, it will be in vain to inquire ; but it is a well known fact, that if we wish to relax a muscle, or place it in a situation to render its action less powerful, and this merely

by altering the position of parts, we must do it by bringing the extreme points, to which such muscle, is attached, nearer to each other.

Let any one duly consider what must be the state of the muscles, when the thigh is in the position directed by Mr. Pott, and I think he will be satisfied, that in ordinary cases no advantage is obtained, and that in the most difficult and doubtful ones, this position is calculated to put on the stretch a majority of the most powerful muscles which can operate to shorten the limb. For if we suppose a patient placed on his mattress, and the limb supported on Mr. Bell's apparatus, we shall find the position such as to bring the origin and insertion of three muscles only, the sartorius, gracilis, and triceps adductor, nearer together than when the limb is extended; and two of these are the most slender of the whole number. The effect which this crooked position has on the remainder of the above mentioned muscles, I contend is not such as has been supposed by Mr. P. and his adherents, to relax them, but one directly the reverse. Of this I think any one may convince himself by a little reflection, and even demonstrate by actual measurement.—If the thigh be kept extended, and the leg bent to such an angle with it as is required in this mode of treatment, the points of attachment of those muscles which arise from the tuberosity of the ischium, will indeed be made to approach each other; but when we bring the thigh to that angle with the trunk which we do in pursuing this plan, we remove the inferior extremity of the femur so far from the tuberosity of the ischium, that, following the course of these muscles, the distance between their origin and insertion is much greater than when the whole limb is extended. Here then we have three muscles in a state of unnecessary extension, which in the aggregate must be more powerful than the three which we have considered as relaxed. To these we must add the tension of the rectus femoris, and in cases where the bone is broken below the origin of the cruræus, the very unfavourable state of this muscle; both these being fixed into the patella; the relative situation of which, when the leg is bent, is materially changed.—But these are not all. The most powerful muscles of the thigh, the glutei, are not to be overlooked; for in cases where the bone is fractured in its neck, cases the most doubtful and troublesome, these muscles offer their resistance to our efforts for reduction, at the very time, and in the very stage of the operation when their power will most effectually prevent our success, viz. when the resistance of all the other muscles is considered to be overcome, yet before the fracture is perfectly reduced, and while the limb is considerably shorter than the sound one.

To shew that these muscles are in an unfavourable state in this plan of treatment, it need only be remarked, that their situation on the dorsum of the ilium is such, that a line following the direction of their fibres from the point of origin to that of insertion, is longer when the thigh is in a state of flexion, than when it is extended ; and that when they contract, they tend to carry the thigh backward and outward.

Another objection to this mode of treatment is, that the crooked position of the limb, and the consequent situation of the patient, render it impossible to compare with any degree of precision, the length of the fractured limb with that of the sound one ; and consequently, we are obliged to trust to the uncertain efficacy of this treatment, till it is perhaps too late to repair the injury done by it.

The advantages of the straight method, or that which is now called Desault's plan of treatment, may be briefly pointed out by attending to a few of its most prominent points. In the first place, the position of the patient, and the situation in which the limb is placed, are such as in a much less degree expose him to uneasiness and inconvenience, and particularly to prevent any unfavourable motion of the parts, either from involuntary muscular action, or from any other accidental cause. Next, it will be found, if what I have stated above prove correct, that all the muscles except *three*, are in the most favourable situation, so far as position affects them, for the immediate temporary extension of the limb, as well as for that which should be continued during a great part of the confinement ; and two of these three, the *sartorius* and *gracilis*, are of no considerable importance. And lastly, in all cases in which extension becomes necessary, the straight position of the limb only is that which will allow the application of a due degree of power for bringing the parts into their proper place, and retaining them there for the necessary length of time. And every one must allow, that by a proper application of Desault's extending-splint, or the common fracture-box which operates on the same principle, a sufficient extension may be effected, and continued as long as any force is necessary to prevent a shortening of the limb.

To the question which will now naturally arise, why this method is not generally and completely successful ? I hope the following observations will prove an answer not wholly unsatisfactory.

When a fracture happens under such circumstances as to allow a considerable contraction in the length of the limb, much force may be required to effect a reduction ; and if this be continued in a proper direction, and with due caution, it will never

be too great, while more is required to bring the limb to its due length, and the injured parts to their natural position. But the signs by which we aim to discover when we have done this, are often fallacious.

The circumstances to be noticed during the operation of reduction, and on which we are directed to rely as signs of its being perfectly performed, are, a correspondence in the position and length of the two extremities, an even and natural position of the pelvis, a natural feeling of the parts about the fracture, and a crepitation from the movement of the fractured surfaces of bone on each other: yet I feel assured, that all these points may be carefully attended to, according to rules given in the best practical works, and the surgeon still be deceived with respect to the true state of the fracture.

In the first place, with respect to the length of the limb; though it be brought to compare well with the sound one, and the extremities be found to correspond to the position of the pelvis; yet, before the resistance of the muscles can be sufficiently overcome to allow a perfect reduction, the ligaments of the joints will yield so much as to make a material difference in the length of the two extremities, which is not to be detected till the patient begins to recover in some degree the use of the injured one; and the deficiency in length will then be found to increase till he is able to walk without assistance.

Next, with regard to the position of the pelvis, there are two circumstances connected with it, by which we are liable to be deceived. First, the situation of the patient is such, that a slight obliquity in this part may often pass undetected. Secondly, from the very great difference in the relative situation of the two extremities when a slight obliquity only exists; for, by the application of the physical and mechanical force employed in the operation of reduction, the ischium, on the side with the fracture, is made the centre of motion for the pelvis; and the moving points to which the thigh bones are attached, are distant from this centre in the unequal proportion of three to one; and consequently, though by the depression of the pelvis on one side, we were to bring the fractured limb down but two lines, the sound one, with the other side of the pelvis, would be elevated six; thus allowing the heels and patellæ to be brought to their proper lines of comparison, before the fracture can be perfectly reduced. This state of the parts, with such an extension of the ligaments as would make unitedly a difference of from a half, to a whole inch in the length of the limbs, may, I am confident, exist during the confinement of the patient, undiscovered by frequent and careful examinations.

And, finally, as to the other signs on which we are to place our confidence; the most experienced surgeon cannot, by feeling through the thick muscles of the thigh, determine by this alone when the fractured portions are in place; and a crepitation from the bone is not to be depended on; since it may happen when any two portions of the fractured surfaces are brought in contact.

The circumstances which I have here mentioned, I would not be understood to consider as connected with difficulties which are not to be overcome; they are, however, such as I have nowhere seen noticed; and to these only can I attribute the very common failure of restoring a limb to its perfect length, after an injury of the kind in question, when treated by a well-informed and experienced surgeon.

A brief description of two cases, which were under my care in the years 1818 and 1819, the circumstances of which gave rise to the above remarks, will serve to illustrate what has been stated. In these cases, however, there was nothing very uncommon; and their termination was as favourable as I had any reason to expect, from all I had seen and read of such as were similar.

CASE 1st. A young man, about eighteen years of age, while mounted on an ungovernable horse, was carried with such force against a post, as to fracture the thigh bone. It was broken about four inches below the trochanters; the soft parts much bruised, and the cuticle removed from some small spots. The sharp, fractured end of the inferior portion of the bone was sensibly felt as it passed above the other; the fracture was evidently oblique, and the limb shortened about two inches. It was treated on the plan of extension, with the usual splints and bandages, as directed by Desault. The case did well until the patient was able to walk across the room, supported by one person. The limb, at this time, appeared of equal length with the other, in every position and situation in which I could test it. But, before the patient recovered any farther, an imprudent attempt to help himself beyond his ability, resulted in a second fracture in the same part. I treated him as before, and no bad consequences followed, except that the limb proved to be about one-fourth, or one-third, of an inch too short. Before the second confinement of this patient had terminated, I was called to

CASE 2d. A man, about sixty-four years of age, fractured his thigh, by falling ten or twelve feet from a hay-loft upon an oaken floor. The whole force of the fall was received upon the great trochanter, and the bone was broken about this part, either *in* or *near* its neck. This was treated in the same manner as case first, except in the use of bandages and short splints, from which

no advantage was expected. The same care was also taken in this case in the application of the apparatus; the position and comparative length of the limb were inspected, and appeared well until the patient was released from the confinement of his bandages and long splint. In about one week after this, the limb appeared to be rather shorter; and by the time he became able to walk, it was found not to be so long as the other by three-fourths of an inch. This patient possessed that kind of constitution, which, from extreme laxity of fibre, and deficiency of vigour and energy in the extreme vessels, constantly exposed him to echymosis, and even sloughing and ulceration, from very slight bruises or other wounds. The unavoidable pressure, therefore, from the bandages used to keep up extension, produced some ulcerations about the ischium and foot; though they did not appear till several days after the bandages were removed. These sores did not heal kindly by the use of common, local applications alone, but a disposition to cicatrize in a sound manner soon followed the use of bark and wine, though the general health of the patient did not appear to require the use of these remedies.

In the first treatment of *case first*, after every thing was adjusted, I found that the broken limb had the appearance of being a little the longest, though no obliquity in the pelvis, or any deviation from a straight position, was discovered, which would account for it. Believing that the consequences would be harmless, no alteration in the degree of extension was made; the same appearance continued, and the result of this first treatment has been given above. When called the second time in this case, I was equally careful in making the extension; the limbs appeared of equal length; and with this I was satisfied, attributing their difference in the first confinement to some deviation in the position of the parts which was not to be detected. But, when my patient became able to walk the second time, the extremity was found to be too short. In *case second*, the appearances after reduction were equally good as in the other, and the patient more closely attended; yet the difference in the length of the extremities after confinement was much greater, owing, as I now think, in a great degree, to that constitutional laxity of fibre mentioned above.

In treating such cases, then, should we be satisfied with merely bringing the limb to the same length with the sound one? Or should we not make some allowance for those accidents, by which, according to the preceding remarks, we are liable to be deceived? To what degree we should, under various circum-

stances, extend the limb, is a question which, like the last, must be determined by future experience.

With respect to the alterations which I am about to propose in the form and application of the apparatus for making extension, I cannot expect that they will at once obviate all the bad consequences noticed above. They were suggested by circumstances connected with the cases which I have described, since which no similar one has occurred; I submit them, therefore, to the candour of my professional brethren, some of whom, no doubt, may have an opportunity of preceding me in testing their efficacy.

In addition to the single extending-splint used by Desault, let another be placed on the inside of the limb, made to reach from the ischium the same distance below the foot as the other. The upper end of this splint should be formed and cushioned like the head of a common crutch. On the ends, below the foot, let there be a cross-piece made to slide by means of two mortises, six or seven inches apart, through which these ends may pass. This cross-piece may be kept at any required distance from the foot, by pins put through the splints, in which a number of holes are to be made for that purpose. The splints may be secured, or kept steady, by straps or tapes passed round the limb, and fastened to both, in the usual way of securing one; and the ends, next to the pelvis should be very firmly connected in this way. The bands from the foot and knee, for extending the limb, may be fastened directly to the cross-piece, or to a wooden screw made to pass transversely through it, by which the extension may be regulated.

The objects of this variation, I think, will be readily seen by those who have had occasion to apply the different machines now in use, or have seen them used by others. The one just described will be light and convenient, while it possesses all the strength required, and be but little more complicated than those of the most simple form. It will allow the limb to be extended in the proper direction, without pressing unnecessarily on any part of it; and may be made at short notice, in many cases, even while the surgeon is preparing other requisite dressings. We may, therefore, instead of an unwieldy framed box, or a board four or five inches wide, extending to the axilla, substitute two spruce laths, half an inch thick and two inches wide, with a small piece of light board for a cross-bar. By these, the limb will not be so much incumbered, and will be more accessible for the application and removal of bandages and other dressings; a circumstance of much importance, both to the surgeon and patient, in cases of compound fracture.

In the application of any apparatus for making an extension, if we would render it most effectual, it is important that the bandages which are to confine the splints, or other machine, to the pelvis, should be so contrived that this part (the pelvis) should be as firmly *fixed* as the nature of the case will admit. Desault was fully aware of this, and has been very particular in his directions for effecting the object; yet this accomplished and very adroit surgeon was often defeated in his endeavours to make his own bandages answer this purpose, as many others must be, who attempt to follow him.

In order to secure the pelvis to the splint in the manner desired, instead of using the bandages of Desault, or the top parts of a pair of buckskin breeches, as recommended by some author, I would recommend that a thick compress or cushion, four or five inches square, should be placed between the trochanter and superior edge of the ilium, to be secured by a broad, soft, but unyielding belt, buckled or laced round the pelvis, and by another narrower strap or band passed under the ischium; this is to be firmly attached by its ends to the belt, just over the lower edge of the cushion. At this part of the belt, also, an inverted sob may be attached to receive the head of the extending splint. These bands may be so applied as not to slip from the pelvis; and by them we may prevent the ilium from moving under the splint, as it always will do when the pelvis is in a manner balanced on the ischium, supported merely by the bandage or napkin which is passed under this part, and otherwise confined only by a common roller round the hips.*

The effects which followed the pressure of bandages, mentioned in *case second*, are such as are rarely produced, and might, perhaps, always be prevented on the *foot*, by the use of the laced sock, or boot, instead of the handkerchief or napkin, which is too often substituted. We can only obviate the bad effects of pressure on the *ischium*, by care in adjusting the compresses, bandages, and other parts of the apparatus; for a certain degree of pressure is necessary on this part; and if we make any in the *axilla*, therefore, as is sometimes done, it does not diminish the degree requisite on the ischium, except at the risk of producing that evil which Desault's plan of treatment is calculated to prevent: Because, if the shoulder were not, as it is, a very moveable part, and the axilla were a point on which we might make firm pressure, this would but give us the power of pulling the pelvis into a more oblique position; and if we connect the shoul-

* For an illustration of the above description of variations in the extending-apparatus, see the plate prefixed to this Number.

der to the pelvis by strong bandages, we do but return the pressure to the very part we meant to relieve, the ischium.

Boston, Dec. 1, 1820.

REFERENCES TO THE PLATE.

- Fig. 1. Represents the whole apparatus, applied to the limb.
2. The inner splint, the head of which is not seen in fig. 1.
 3. The cross-piece.
 4. A belt, which may be made of leather or strong cloth, and furnished with straps and buckles.
 5. The ends of a similar belt, which may be made to lace.
 6. A strap, to pass under the ischium and buckle to the belt.
 7. The cushion, to be placed on the side of the pelvis, under the head of the outer splint. See fig. 1.
 8. Screws for regulating the extension.

REVIEW.

ARTICLE I.

An Explanation of the real process of the "spontaneous evolution of the fœtus;" with some remarks, intended to induce an inquiry, whether the practice of turning be not too generally had recourse to, in Arm-Presentations. By JOHN C. DOUGLAS, M. D. &c. Second Edition. Dublin—London—1819.

A SHORT notice of this work was given from a foreign Medical Journal, in a former number; we have since received the work itself, and mean now to notice it more fully; we are induced to do this, because it contains a new explanation of a fact occasionally to be met with in midwifery, and because it offers some new views in practice.

Dr. Douglas' attention was first called to the subject of the Spontaneous Evolution of the fœtus in the year 1810. It was not the *fact*, which then engaged his attention, for this had been observed long before. It was the process of parturition itself, in these cases which attracted his notice, and an explanation was suggested, which subsequent observation has tended strongly to confirm. Two cases of the same kind with the first having occurred, Dr. Douglas published a pamphlet, containing their history and *rationale*, in 1811. The haste with which this pamphlet was written, was productive of some inaccuracies in the statements, and the modes of expression in some instances were such as to lead to very erroneous conclusions. These circumstances have led the author to restate the subject in the pamphlet before us. Dr. Douglas sent a copy of his first tract to the late Dr. Denman, who has rendered himself so distinguished by his various works on midwifery, and who first described the spontaneous evolution of the fœtus. The opinions contained in this tract were entirely opposed to those of Dr. Denman. He wrote Dr. Douglas on the subject, in return, and in the extracts from the letter published in the pamphlet a hasty sketch is given of the state of medical opinion about the evolution, when Dr. Denman wrote, and the simple reason which induced him to offer the explanation which appears in his works.

When the fact of spontaneous evolution was first published, it was absolutely denied by every member of a society of which Dr. Denman was a member. In a few years after it came to be admitted, and was publicly taught. Having stated the fact, and established its credibility, Dr. Denman was next led to attempt its explanation, and this he regarded as a duty. What his precise opinion was with regard to its correctness, may be gathered from the following quotation from his letter to Dr. Douglas, "The fact is a distinct question; the manner of the evolution another. For the former, I am not any longer answerable. It stands on other testimony; but I certainly have remained responsible for the explanation of the manner, and to defend this I am not very solicitous; yet I may observe that my explanation is not given in positive terms, beginning with 'I presume,' leaving it as an opinion for future proof or disapprobation. If there be an error in the explanation, others may also err in their opinion." Dr. Douglas has withheld the remarks and criticisms in the letter on the merits and demerits of his work, but it is pretty apparent from the concluding passage in the above quotation, that Dr. Denman did not feel perfectly satisfied with the explanation of the "real process" of the evolution. Dr. Douglas' opinion is supported by seven cases, in which evolution occurred, and we mean now to offer a statement of his facts and his reasonings, promising a hasty sketch of the history of the practice which preceded the discovery of the evolution.

The cases in which evolution may be looked for are those which are technically called *cross births*, those namely, in which any part of the trunk, or of a superior extremity of the child, presents. In these cases various methods of treatment have been adopted and recommended. In the earliest periods of midwifery practice of which we have any records, these methods were rude, and dangerous in the extreme. The plan which succeeded these was *turning*. This is distinctly mentioned by Celsus. It seems however to have been but little practised, for it was not till the time of Ambrose Paré, nearly the close of the sixteenth century, that this practice became general. Paré either discovered this method, or revived it from Celsus. By turning is technically understood the bringing down of the feet, in cases in which, an upper extremity, or any other part of the trunk may present; and by means of which such presenting part recedes into the uterus.

Dr. Douglas has collected some interesting facts in regard to the circumstances, under which this operation has been attempted and accomplished. These are principally remarkable for the laborious industry or violence which has been manifested by practi-

tioners in their attempts to accomplish turning. The degree to which these efforts were carried are even ludicrous, and it is matter of astonishment how the patient could have been induced to submit to, much less survive them. Denman continued the same practice, until accident, in the year 1772 discovered to him that the powers of the uterus were sufficient to an effect, which for ages had cost so much strength, labour and suffering. "From that period," says Dr. Douglas, "unless he could accomplish his object by moderate exertions, he either trusted to the chance of a spontaneous evolution, or he proceeded to deliver in a manner of which we shall hereafter speak."

Dr. Denman has published in his aphorisms the three first cases of *evolution* which occurred in his practice. In the first case attempts had been made to turn by the physicians in attendance before the arrival of Dr. Denman. These were fruitless on account of the violent contractions of the womb. The arm was found excessively swollen, and so far protruded, that *the shoulder nearly reached the perinæum*. The pains continued violent, and *the shoulder was perceived to descend*. The child was expelled "and I was very much surprised to find, that the breech and inferior extremities were expelled before the head, as if the case had originally been a presentation of the inferior extremities."*

In the second case, when Dr. Denman saw the woman, the *shoulder* of the child was found pressed into the *superior aperture* of the pelvis. The pains were strong and frequent, attempts were made to turn, but from the extreme action of the uterus they were found unavailing. The first case was now recollected. The case was left to itself. The child was propelled lower and lower into the pelvis, "and in a little more than an hour the child was born, the breech being expelled, as in the first case." Aph. p. 62.

In the third and last case, fruitless attempts were made to turn. Dr. Denman was sent for about one in the morning, and found the arm pushed through the external parts, the shoulder pressing firmly upon the perinæum. The pains were astonishingly strong. "I sat down, says Dr. Denman, while she had two pains; by the latter of which, the child was doubled, and the breech expelled, I extracted the *shoulders* and head, and left the child in the bed." Aph. p. 64. In all these instances the child was dead, but the women did perfectly well.—The women were at the full period of utero-gestation, and the children were of the usual size.

The practical inferences to be drawn from these facts are, first that women would not necessarily die undelivered in arm

* Aphorisms, p. 61.

presentations, though unassisted by art; and secondly, that attempts at turning should not be indiscriminately made. From the facts furnished by these and many other cases of the same kind which occurred in Dr. Denman's practice, he was led to offer the following explanation of the process.

'As to the manner in which this evolution takes place, I presume, that after the long continued action of the *uterus*, the body of the child is brought into such a compacted state, as to receive the full force of every returning action. The body in its doubled state, being too large to pass through the *pelvis*, and the *uterus* pressing upon its inferior extremities, which are the only parts capable of being moved, they are forced gradually down for the reception of some other part into the cavity of the *uterus* which they have evacuated, till the body turning upon its own axis, the breech of the child is expelled, as in an original presentation of that part, nor has there been any thing uncommon in the size or form of the *pelvis* of those women to whom this case has happened, nor have the children been small, or softened by putrefaction, because one or more children have been in this way born alive. I believe on the contrary, that a child of the common size, living, or but lately dead, in such a state as to possess some degree of resiliency, is the best calculated for expulsion in this manner. Premature or very small children have often been expelled in a doubled state, whatever might have been the original presentation, when the *pelvis* was well formed, or rather more capacious than ordinary; but this is a different case to that we are now describing.'*

There can be no question from this extract what Dr. Denman's opinion was concerning the mechanism of spontaneous evolution. He believed that the presenting arm was returned into the uterus, and the breech gradually forced into its place. There is some little difficulty in determining exactly what he means in the concluding sentence. If he means to include the arm presentation, in the remark, "whatever might be the original presentation," of the children alluded to, he has in regard to these cases at least, anticipated the doctrine of Dr. Douglas.

There are two points in this explanation which deserve attention, for it is to these that Dr. Douglas has directed the weight of his criticism. The first regards the impossibility of the mature foetus passing doubled through the pelvis; the second, the existence of a *cavity*, or of *room*, in the uterus, during its *contractions*, for the reception of some part which has already been excluded. The author first meets the question of the impossibility of the foetus passing doubled. He is inclined to believe that the foetus can so pass, and his argument rests on the actual dif-

* Introduction to midwifery, vol. 2. p. 251-2.

ference of bulk between the size of the body forcibly doubled, and that of the head. This he regards as by no means great, and asks 'and why should not a *pelvis*, which we suppose perfectly capable of containing the head of a child, likewise be capable of containing its body; the bulk, when compressed, and the solid contents of which whether compressed or not, do not very much exceed those of the head.'

The question rests entirely on the supposition that the doubling is effected by compressing strongly the trunk by its '*extreme ends*.' Now though it be perfectly true that forcibly bringing the two extremes of the trunk together, in a still-born child, and of course, out of the pelvis, will effect such an arrangement of the trunk that its size shall not differ very materially from that of the head, we may ask the author how such compression, could be effected in the arm presentation, particularly when the evolution is about to take place? In this case one extremity at least of the trunk would be excluded from pressure, and of course could not be brought in contact with the other; and if his reasoning be true, the full grown *fœtus* might be born doubled in any other case, as well as in the arm case, which experience entirely disproves.

But as if aware of these difficulties, Dr. Douglas remarks in the next page, 'But, in order to admit my explanation of the process to be correct, it is not necessary to conceive that the trunk should be altogether compressed into a bulk not exceeding the compass of the head. For, previous to the reception of the breech into the brim of the *pelvis*, which occurs very shortly before the completion of the evolution, a great portion of one side of the thorax will have emerged from under the arch of the *pubis*. And likewise, at this period, the perinæum will be excessively on the stretch, suffering a degree of extension far beyond that to which it is put in usual labour.'

Does the change of place the inferior extremities undergo by the uterine contractions leave *room* in the uterus for the reception or return of any part which has already been protruded? This seems utterly impossible to Dr. Douglas; and no one believes that such a state of the womb can exist under forcible contractions. But did Dr. Denman mean to teach that such *room*, or *vacuum*, as Dr. Douglas interprets it, does exist under the circumstances supposed? He was experimentally aware of the extreme difficulty of returning a protruded part into the uterus, and of turning. So far from a cavity existing during a pain, his whole experience had taught him the contrary. The womb during its efforts closely compresses every thing within its influence, and in every point, and renders it utterly impos-

sible in many cases to move the hand while in its cavity. It is to be inferred then, that Dr. Denman did not mean to teach that a *cavity* or a *vacuum* exists in any part of the uterus *during its contractions*. The term *cavity* of the womb, is purely technical as employed by Dr. Denman, and means the *inside* of this organ, whether filled or empty. By the term *room*, he means that state of the organ which is produced by the removal of a portion of its contents, and has regard solely to its *capacity* of being dilated again, at least to a degree equal to its contraction; in other words to a degree sufficient to receive again, a protruded part. That this may be the case, the whole history of turning abundantly proves, especially those cases in which an arm has been protruded, and turning afterwards accomplished.

The real point at issue between Drs. Denman and Douglas is this, is the arm returned again into the uterus in the process of evolution. It is not whether the child can be born doubled, or whether the uterus can receive a protruded part, for under circumstances both of these are acknowledged to be true. It is not a point for the indulgence of speculation merely, for it has a positive and important relation to practice. If the arm be returned, then those cases are nearest termination, in which the arm is disappearing or has disappeared; and *vice versa*.

Dr. Douglas' experience puts this question entirely at rest, '*with respect to the arm which was originally protruded, I can affirm that not one line of it, or of any other part of the child once descended, ever withdrew again into the uterus.*'

The following quotations contain Dr. Douglas' explanation, of the *spontaneous evolution of the fetus*; 'which,' he observes, 'had not been satisfactorily explained until the year 1811.*'

* It appears notwithstanding this declaration of Dr. Douglas, that the same thing had been observed, by Herder, a distinguished practitioner at Weimer, at least as early as the year 1803. His work bears this date, in which a case of evolution is related, the circumstances attending which were precisely similar to those mentioned by Dr. Douglas.

In this case the left elbow with the left side of the chest presented; the navel string was prolapsed, and was cold and pulseless; the right arm lay over the pubis; the head high on the right side; the feet above, in the fundus of the uterus, over the head; the breech lay on the left side. Attempts at turning failed. Opium was given. This in place of acting as an anodyne, was cordial in its effects, and the patient revived from great exhaustion, which had been induced by ineffectual labour, which last had continued from Friday to Sunday.

The pains now became strong, and very frequent, and in about three quarters of an hour, the patient called aloud for assistance, as every thing was coming away, 'on examining,' remarks Herder, 'I found to my astonishment, that the violence of the pains had thrust out, not only the left arm, but also the breast and a part of the belly of the child, through the pelvis

'In all the cases related by various practitioners on the subject of the evolution, it is acknowledged, that shortly before its occurrence, the shoulder of the child had been forced very low into the *pelvis*; and that the thorax had occupied so much of its cavity as to preclude the practicability of the hand of the accoucheur being passed up into the *uterus* for the purpose of turning as is usually done in such presentations.

'So far as the foregoing detail, my observations coincide with those of Dr. Denman and others; but I cannot comprehend how successive repetitions of the same propelling power, which forced the child into this situation, should subsequently, at any period, produce a counter-effect, causing the shoulder to retreat into the *uterus*. The fact however is,—that the shoulder and thorax, thus low and impacted, instead of receding into the *uterus*, are, at each successive pain, forced still lower, until the ribs of that side corresponding with the protruded arm, press on the perinæum, and cause it to assume the same form as it would by the pressure of the forehead in a natural labour. At this period not only the entire of the arm, but the shoulder can be perceived externally, with the clavicle laying under the arch of the *pubis*. By further uterine contractions, the ribs are forced more forward, appearing at the *os externum*, as the *vertex* would in a natural labour; the *clavicle* having been by degrees, forced round on the anterior part of the *pubis*, with the acromion looking towards the *mons veneris*.

'But, in order to render as clear as possible the successive movements in this astonishing effort of nature, I will endeavour to describe, still more precisely, the situation of the *fœtus* immediately prior to its expulsion. The entire of it somewhat resembles the larger segment of a circle; the head rests on the *pubis* internally; the *clavicle* presses against the *pubis* externally, with the acromion stretching towards the *mons veneris*: the arm and shoulder are entirely protruded, with one side of the *thorax* not only appearing at the *os externum*, but partly without it; the lower part of the same side of the trunk presses on the *perinæum*, with the breast either in

and the external parts; the head and the pelvis as well as the feet of the child remained behind, and could not be expelled naturally. As the belly of the dead child was much distended with air, and was an insurmountable hindrance, in the pelvis, to the half-doubled and half-born child, I immediately perforated the distended breast and belly, took the viscera out and then drew down the under part of the trunk, in order to get hold of the pelvis of the child. I reached it, and as soon as it was born, the feet, head, and right arm followed." (Diagnostic: praktische Beiträge, Von W. G. Herder, Leipzig, 1803.) It may be observed in the above case, that it not only resembles those of Dr. Douglas, in its leading features, but that the part of the trunk seized by the practitioner in extracting, agrees with his directions, to be mentioned hereafter. These coincidences are to be regarded as proofs of the correctness of Dr. Douglas' history and practice, and should not at all diminish his claims to his assumed discovery.

the hollow of the *sacrum*, or at the brim of the *pelvis*, ready to descend into it; and by a few further *uterine* efforts, the remainder of the trunk, with the lower extremities is expelled.

'And, to be still more minutely explanatory in this ultimate stage of the process, I have to state, that the breech is not expelled exactly sideways, as the upper part of the trunk had previously been, for during the presence of that pain, by which the evolution is completed, there is a twist made, about the centre of the curve, at the lumbar *vertebræ*, when both buttocks, instead of the side of one of them, are thrown against the *perinæum*, distending it very much; and immediately after the breech, with the lower extremities, issues forth, the upper and back part of it appearing first, as if the back of the child had originally formed the convex, and its front the concave side of the curve.

'From this description (the accuracy of which, I have no doubt, will hereafter be verified by multiplied testimony,) it must be evident that the breech is not the first part of the body which appears without the *os externum*, according to Dr. Denman's theory; because that side of the *thorax* which corresponds with the presenting arm, is previously protruded. The breech certainly is expelled momentarily before the opposite side of the *thorax*.'

Having thus made his *explanation* of the evolution, Dr. Douglas goes on in the next place, to offer one other of Dr. Denman's mistakes with regard to the process.

'The arm and shoulder certainly, on those occasions, always withdrew from the hand of the accoucheur, placed either on the *perinæum* or at the *os externum*, in the usual direction from the axis of the *pelvis*; but instead of returning into the *uterus*, they merely got forward on the symphysis of the pubis externally: and thus, whilst the practitioner's mind and hands were occupied for the safety of the excessively distended *perinæum*, he imagined that the arm and shoulder, which only withdrew from his hand in getting forwards on the *pubis* externally, receded into the *uterus*.'

We do not mean to attempt a critical examination of the explanation offered by Dr. Douglas. It appears however pretty remarkable, that in the *many cases* either mentioned or alluded to by Dr. Denman, as having occurred in his own practice, or under his own observation that the 'real process' was *never* witnessed by him. It is not easy to suppose that it never occurred to Dr. Denman, and it is almost as difficult to believe that it would always have escaped him, had it happened in all his cases. In the third case mentioned by Dr. Denman, a fact is mentioned which either escaped Dr. Douglas, or was thought too unimportant to quote. 'I extracted the *shoulders* and head, and left the child in the bed.' Now if one arm, and of course one shoulder remained without the *os externum*, Dr.

Denman could not have extracted the *shoulders*, and the circumstance of *both* being extracted is pretty good evidence that one was not without the pelvis. We by no means regard this fact as invalidating the explanation of Dr. Douglas. It seems due to Dr. Denman, however, as he stands chargeable with some considerable degree of negligence of observation, in a case too, which was first observed and described by himself, to state distinctly such facts from his own cases, as are calculated to lessen the weight of this charge, particularly when these facts have been passed over unnoticed by his opponent.

What is the condition of the *fœtus*, which would lead the practitioner to expect *spontaneous evolution*? 'If the arm of the *fœtus* should be almost entirely protruded, with the shoulder pressing on the perinæum; if a considerable portion of its *thorax* be in the hollow of the sacrum, with the *axilla* low in the pelvis; if, with this disposition, the *uterine* efforts be still powerful, and if the *thorax* be forced sensibly lower during the presence of each successive pain, the evolution may with great confidence be expected.'

A question will now occur, as to the time the evolution may require, and whether turning be proper under this situation of the *fœtus*, and under the uterine efforts described. From the cases furnished by Dr. Denman, the time required for the evolution was not long. He speaks of 'some hours,' from the beginning of labour, but from the time of the descent of the *fœtus* to the situation above mentioned, it required only two pains in one case, and only an hour in another. In neither of the seven cases stated by Dr. Douglas did the process exceed six hours. As to the question of turning in the supposed situation of the *fœtus*, or, 'in any degree of it,' the author remarks that it should not, at all events be attempted, 'because it is an expedient *always* terrifying to the suffering female, and under such extreme circumstances, without any prospect of having a living child, may bring her own life either into immediate or more remote danger.' Every writer on midwifery bears ample testimony to the extreme difficulty and hazard of attempting to turn in these cases. The infant who seems to have the principal interest in the success of the operation is destroyed by it, and the life of the woman jeopardized.

How long are we to wait for the spontaneous evolution? No longer we answer than in any other case of difficult or laborious labour, should its continuance give it this character. We are to look for our indications for manual or artificial assistance in the effects of the labour on the system of the patient.—While the pulse continues healthy, or is no further disturbed

than is common in all other cases of labour,—the skin cool and moist,—the head free from unusual pain, and the intellectual powers entire,—while there is no extreme or unusual soreness complained of in the abdomen,—while the evacuation of the rectum, and, especially of the bladder, continues easy,—the patient tranquil and free from that indescribable restlessness, the alternate chills and heat which characterize exhaustion and morbid labour,—if the pains continue strong, and *advance the child*, we are authorized to wait and look for spontaneous or unassisted delivery. We are called on to interfere when the above symptoms are threatened; for their establishment, will most frequently prove to us by the result, that we have waited too long.

What means are to be employed in the absence of pains, or when they are entirely ineffectual, though of long continuance, when the *fœtus* is in the situation which puts turning out of the question, and any of the above symptoms are present, or are threatened.

‘The means of delivery then, in any case,’ remarks the author, ‘where it has been determined neither to turn nor to wait for a spontaneous evolution, are to lessen the trunk of the *fœtus*, by opening its thorax or abdomen, or both; and when thus lessened, it may be more easily expelled, after the manner of the unaided evolution; or the practitioner might still farther hasten this process, by fixing a blunt hook or crotchet, or (when practicable) his fingers, on the *pelvis* of the *fœtus*, and thereby encourage its descent.

‘I cannot, however, avoid to enter my protest against the doctrine recommended by some, of fixing the instrument at random on any part of the *fœtus* which happens to be nearest; because, if the physician fix it on any of the superior ribs, he might pull with herculean force, and yet not be able to bring down the body, unless he unfortunately separate it from the head, which rests over the *pubis*, and which neither can descend itself, whilst the cavity of the *pelvis* is occupied by the trunk, nor will it permit the upper part of the thorax to be pulled down, unless the neck first give way. I, therefore, caution the practitioner to fix his instrument, in such cases, on the child’s *pelvis*, and not on the upper part of its thorax, before he exerts much extracting force. By thus acting, he would be closely imitating that natural process, which it has been my anxious wish faithfully and accurately to describe.’

Is the possibility of a spontaneous evolution, to supersede the practice of turning in arm-presentations? This is a question of practical importance. The temptation is almost inevitable, when we recollect the difficulty of turning, in cases apparently the best calculated for the operation, to leave the case to the unassisted efforts of nature; especially will this be the case, now that a wide experience has demonstrated the probability of the

evolution. We have no authority, however, for gratifying the inclination to delay turning. Denman's simple object was to show, that the evolution was *possible*, and Douglas has confined its *probability* to a certain class of cases only.

'But although,' he remarks, 'the duration of labour in these (cases) was comparatively short, yet the expelling power exerted by the *uterus* in each case was, and ever must be on every similar occasion, prodigious. Nor can any other event ever be calculated upon, than a still-born infant.

'After these distinct declarations, I trust I will [shall] not be accused of an intention to promulgate a doctrine, that every cross-birth should be subjected to this process. As I well know, that when a judicious practitioner has the management of such a labour from its commencement, he will frequently, not only be able to preserve the life of the child, but he will likewise save the mother much exertion and suffering.'

The safety to mother and child, in such cases, let it be distinctly understood, can alone be secured by *early turning*. The operation of turning thus retains its legitimate place in the practice of midwifery. The author has no design of discountenancing its judicious use. His work is valuable, because it places a rational limit to its employment, and strengthens our confidence in a resource, which has not before been more ably defended. We have not been always satisfied with the spirit of the work. It labours to destroy the hypothesis of Dr. Denman, which he never laboured to defend, and which was offered the public in the absence of all other explanation of an important fact. We have also noticed some misinterpretations of Dr. Denman's language. The time we have devoted to this pamphlet is sufficient evidence of the importance we attach to the subject, and to the author's manner of treating it.

Since writing the preceding article, we have met with a short notice of a pamphlet, by Dr. Kelly of Newtown, Swords, near Dublin, on the same subject, which appeared in 1816. This writer advocates the doctrine of Denman, with some qualifications. It does not appear, however, that Dr. Kelly has ever seen a case of spontaneous evolution; and the question of the process by which it is accomplished, can only be settled by actual observation. We have it in our power to relate the history of a case, in which a most satisfactory detail of the steps of the process given. The case is by Dr. Robert Gooch, and is published in

the sixth volume of the Medical Transactions of the London college of physicians, 1820.

‘The patient was a tall young woman, at the full time with ~~her~~ first child, she had had slight pains during the night, (Saturday;) about four in the morning (Sunday) the membranes had broken,—an arm descended.

‘The first thing I observed,’ says Dr. Gooch, ‘was, that not only the arm was out its whole length, but that the shoulder had turned forward under the arch of the pubis, like the occiput just before the head is born. The next thing I observed was, that when a pain came on, which was very strong, the side of the thorax pressed down with great force against the perinæum. Struck by these appearances, I abstained from turning, and sat down by the bed side, fully expecting what actually took place, the spontaneous expulsion. Resolved to know what became of the arm, if this should happen, and thus fit myself for a witness on this disputed point, I laid hold of it with a napkin and watched its movements: so far from going up into the uterus when a pain came on, it advanced as well as the shoulder still forwarder under the arch of the pubis, the side of the thorax pressing more on the perinæum, and appearing still more externally; it advanced so rapidly, that in two pains, with a good deal of muscular exertion on the part of the patient, but apparently with less suffering than attends the birth of the head in a common first labour, did the side of the chest, of the abdomen, and of the breech, pass one after the other, in an enormous sweep over the perinæum, till the nates and legs were completely expelled. The head and other arm were still to be extricated, but this was effected with the greatest ease; the child was dead; the mother had not felt it move since the day before at noon. Not only was the chord without pulsation, but it was empty and shrunk, and looked as if it had been some time since blood had circulated through it. The side of the chest, which had come foremost, was of a livid green; the skin peeled off, and the naked cutis was dark brown.’

The most favourable position, according to Dr. Kelly, for the spontaneous *expulsion*, as he prefers calling it, is,

‘that in which the shoulder is to the arch of the pubis, the head towards the front, and the nates towards the back of the uterus; *the least favourable* would be, that in which the shoulder is to the sacrum, the head towards the back, and the nates towards the front of the pelvis.’

We regard the details in this case as peculiarly valuable; and we are not perfectly satisfied with the reasons given by Dr. Douglas for withholding them in his cases. The explanation of any process in natural history, has a dependence, not only on the facts in the case, but also on the preconceived views of the observer; and, however well disposed he may be to correct his

first impressions by subsequent observation, he is not unfrequently disposed to consider near, and even remote, resemblances as positive likenesses. We do not charge this on Dr. Douglas. In the absence of detail, however, we must admit his explanation *in toto*, or reject it; and were we to do the latter, which by the way we are not disposed to do, we should find few materials in his cases for making a new one.

ARTICLE II.

Cases of a Serious Morbid Affection, chiefly occurring after Delivery, Miscarriage, &c. from various causes of Irritation and Exhaustion; and of a similar Affection, unconnected with the Puerperal State. By MARSHALL HALL, M.D. F.R.S.E., &c. &c. London: 1820.

THERE are, perhaps, few very serious affections more manageable than the one treated of in this work; there are few in which an inappropriate treatment is more injurious; and there are few in the present state of puerperal pathology, in which the practitioner is more liable to pursue a wrong course. These are some of the motives which induce us to offer our readers an analysis of this work of Dr. Hall. There is another, however, which we are unwilling to conceal; and this is the high respect we entertain for the author. His works are before the public, and their value has been universally acknowledged.

The objects of Dr. Hall, in this work, are concisely given in the advertisement:

‘The attention of the profession has been amply fixed on the extensive INFLUENCE OF INTESTINAL IRRITATION on the general system. But I am not aware, that any author has sufficiently explained the EFFECTS OF REPEATED OR PROTRACTED LOSS OF BLOOD, OR OF EXHAUSTION FROM OTHER CAUSES. Much less have these effects been shewn to RESEMBLE those of some inflammatory affections, or been CONTRASTED with them, and DISTINGUISHED from them. No writer has, I think, sufficiently exposed the DANGERS by which the subject is attended, or pointed out the CIRCUMSTANCES in which these dangers are liable to be encountered.

‘I have undertaken to supply these deficiencies in the following pages, which I lay before my professional brethren, with the hope that they may contribute something to extend our knowledge of medicine and of remedies, and to alleviate the sufferings of mankind.’

The motives of the author are more fully given in the following quotation:

Vol. X.

‘I believe—THAT THE MORBID AFFECTION IN QUESTION CONSTITUTES A GREAT MAJORITY AMONG PUERPERAL CASES, AND A GREAT MAJORITY AMONG THE FATAL ONES, AND, OF THESE FATAL CASES, MANY ARE DAILY RENDERED SO BY A MISTAKEN USE OF THE LANCET.’ § IV.

After some general remarks on the *extreme similarity*, between the *symptoms* of this and the inflammatory affections of the puerperal state, we have the following remarks :

‘It cannot of course be conceived to be any part of this essay to inculcate the neglect of bloodletting in the case of inflammation. But, as this remedy misapplied is sometimes fatal, I would recommend, in the strongest terms, the utmost caution,—the strictest attention to the DIAGNOSIS,—and the greatest vigilance in regard to the effects of bleeding, should this measure be once instituted.’ § VII.

Dr. Hall, in farther treating of this affection, first notices its *Causes*.

‘This affection appears to arise from different sources of irritation and exhaustion, especially as concurring after the fatigue and shock which the system undergoes during labour or abortion.’ § VIII.

‘The principal source of irritation is a disordered and loaded state of the alimentary canal; the principal source of exhaustion, uterine hæmorrhagy.’ § IX.

The individuals most liable to this affection are,

‘those persons, who, previously to delivery, have laboured under a deranged state of the bowels,—with constipation, diarrhœa, sickness, &c. those who, previous to conception, have been affected with mimosi decolor; and, besides this, have been anasarous; individuals who have suffered aphthæ, with irritable stomach and bowels. It appears to be frequently induced by copious, but especially protracted uterine hæmorrhagy, the menorrhagia lochialis, imprudent or too copious or long continued lactation, sickness, diarrhœa, &c. It frequently occurs in persons who have, previously to delivery, been reduced by venæsection and other remedies necessary to subdue an inflammatory disease,—by misapplied venæsection after confinement; and it has immediately followed the violent operation of a purge. The delicate and feeble are particularly liable to be attacked by it. It is aggravated or even induced, by too great closeness and warmth of the patient’s room, or of the weather; and the fatigue of a lingering labour,—violence of labour pains,—anxiety, alarm and hurry, &c., have apparently concurred to produce it. Improper diet and fatigue, or too early rising after delivery, may also exert an influence. The pain attending this affection has been experienced during the latter period of pregnancy. In these cases is it not probable, that the cause exists in the state of the bowels?’ § X. XI. XII. XIII. XIV.

The history, cause, &c.—Dr. Hall believes, that the morbid affection has, in some instances, been suddenly and unexpectedly

fatal after confinement; and asks, if this was not the case in the instance of the Princess Charlotte? A case is alluded to, in which he knew this was the fact.

‘Occasionally the patient does not recover from an ill-directed bleeding. Sometimes the affection terminates fatally after a more or less urgent or protracted and varied course. In some instances, there has been long-continued indisposition. Lastly this affection has frequently yielded favourably to the resources of art. And this, I am happy to say, has been the almost invariable result of the employment of the plan of treatment to be described hereafter. This affection appears principally under the following forms:—1. The acute; 2. the more continued; 3. with general symptoms; 4. with some predominant local affection; 5. as the effect, chiefly, of intestinal irritation; or 6. of hæmorrhagy. The greater number of cases do not, however, admit of being referred to any of these divisions distinctly or exclusively, but assume a mixed character.’
§ XVI. XVII. XVIII. XIX. XX. XXI.

The Description, Symptoms, &c. of the puerperal affection under notice are next given. In the acute form, ‘the first symptom has usually been severe and long continued rigor, succeeded by great heat of surface, great frequency of pulse and some serious affection of the head or the abdomen.’—§XXII. In a slower or more insidious attack, there is less rigor, heat perhaps absent; the head throbs; and there is vertigo in the erect posture or fluttering and palpitation of the heart, or oppressed, hurried, and sighing breathing, or irritability of the stomach and bowels. The cause of the affection, it is remarked, and the constitution of the patient, have a decided influence on the circumstances of attack. Thus great intestinal irritation, and serious uterine hæmorrhagy cooperating, induce a sudden attack, with rigor and much febrile heat; while the effects of continued irritation of the stomach and bowels, protracted uterine hæmorrhagy, menorrhagia, or undue lactation are insidious and protracted. The constitution, and the cause exert a like influence on the course of the disease.

‘The symptoms vary in degree, form and assemblage in every case. They refer themselves generally to the HEAD, HEART, CHEST, STOMACH, BOWELS, UTERUS, THE MUSCULAR SYSTEM, AND TO DIFFERENT SYMPTOMS OF PAIN.’

Before enumerating the symptoms under each of these heads, Dr. Hall, premises, ‘that, of the two principal causes of this affection, Intestinal Irritation and Uterine Hæmorrhagy, each produces symptoms in some degree peculiar to itself.’ The organs of the abdomen, and brain, are the seats of the leading symptoms when the first is predominant, while those of thorax mani-

fest most disorder from the last. 'But,' observes the author, 'besides that these two causes generally co-exist, and co-operate, it is remarkable how similar, in general, are their effects. They each seem liable to attack ALL the organs and functions of the body, conjointly or separately. It is however, in general, the circumstance of EXHAUSTION, which adds REAL DANGER to the otherwise URGENT, but LESS SERIOUS SYMPTOMS OF IRRITATION.'—§ XXXVII.

The following are the symptoms which may be referred to the HEAD :—'Severe pain ; beating and throbbing ; rushing, or cracking noises ; vertigo or turning round of the room, especially on raising the head or assuming the erect position ; intolerance of light, and of sound ; wakefulness ; starting during sleep ; awaking hurried and alarmed, with faintness, palpitation, feeling of sinking, of impending dissolution, &c. ; being overcome by noise, disturbance, or thinking even ;—and delirium.' 'The HEART is, in different cases, affected with palpitation, fluttering, irregular and feeble action ; there are beating and throbbing of the carotids, and sometimes even of the abdominal aorta ; great rapidity, and sometimes irregularity of the PULSE ; faintishness or fainting, urgent demand for the smelling-bottle, fresh air, fanning, bathing of the temples ; feeling of impending dissolution ; incapability of bearing the erect position, and sometimes early fainting from the lancet.'—§§ XXVIII. XXIX.

The state of the RESPIRATION may be inferred from the above symptoms, 'There is sometimes,' says the author, 'a sense of great and alarming oppression about the CHEST.'—§ XXX. A cough which seems to arise from the larynx or trachea, is among the symptoms of this affection. It is called an IRRITATIVE COUGH, occurring in violent fits, or in the form of continual hacking. In the STOMACH, we may observe irritability, sickness, retching, vomiting, hiccough, and eructation ; in the BOWELS, constipation, or diarrhoea, pain, flatus, distension, &c.—§§ XXXI. XXXII.

Jactitation, tossing about, and urgent restlessness, are also among the symptoms. 'In some cases, various SPASMODIC AFFECTIONS have occurred.' 'The SEATS OF PAIN are usually the head, the side, the iliac region, the loins, the region of the uterus, and the abdomen generally. The pain of the iliac and uterine region, and of the abdomen, is often attended with much tenderness.'—§§ XXXIII. XXXIV. The effects of blood-letting have been already alluded to. In some cases these are very striking, even after the first and even a moderate bleeding. The patient complains of being faint, gasps, and has a feeling of dissolution, and in some instances the greatest dread of being bled has been expressed.'—§ XXXV.

Diagnosis.—With what diseases may this affection be confounded ?—It may be confounded with the inflammatory diseases of

the head, chest, heart, stomach and bowels, uterus and peritoneum. It may be especially mistaken for Puerperal Phrenitis, and Puerperal Fever. The Diagnosis is frequently difficult. Our best guides are in the first place, the symptoms, already detailed. In the second, the effects of remedies particularly of blood-letting. 'In the case,' remarks Dr. Hall, 'in which the practitioner has had recourse to blood-letting, the effect of this remedy should be closely remarked ;—early faintness,—increased frequency of the pulse,—gasping,—internal feeling of dissolution,—unremitting pain, &c. are circumstances which ought, at least, to lead to the greatest caution and circumspection with regard to the further use of this remedy.' 'In all cases the colon and rectum should be unloaded by enemata. This measure affords a source of Diagnosis of the utmost importance, in the relief it confers, and in the opportunity it gives for the observation of the state of the intestinal contents.'—§ XXXIX. XL.

Treatment.—'The treatment consists in cautiously removing the causes, whether of Irritation or Exhaustion ; and by carefully obviating the effects already induced by them.'—§ XLI. Before entering particularly into the detail of treatment, Dr. Hall enforces the importance of the various cautions which the practitioner should observe in treating this affection. These cautions regard the USE OF REMEDIES, the REGIMEN and the NURSING. The remedies are to combine mildness and efficiency, else exhaustion will be increased, and irritation but partially removed, and thus a source of the greatest danger be produced. The food is to be nourishing and still not such as will load or disorder the stomach. 'And the benefit of the wisest plan may be counteracted, by imprudent exposure to fatigue, exertion, hurry, agitation, or anxiety.'—§ XLII.

The means of removing intestinal irritation are aperient medicines and enemata. Of the former the author has found small doses of calomel, draughts with rhubarb and sulphat of magnesia the best.

'One point is of the greatest importance ; it is the union with the purgative, of a proper dose of opium, or of a stimulant medicine ; and a point of little inferior importance, is the administration, before, during, and after, the action of the purgative medicine, of proper nourishment. With the calomel, I have given a small quantity of opium, and with the rhubarb and sulphat of magnesia, a little of the tinctura cardamomi comp.'—§ XLIV.

Enemata are recommended in the strongest terms. These act without producing the exhaustion of efficient purgative medicines, and without disordering the stomach. Exact inspection of the effects of these various means of unloading the stomach and bowels, is never to be omitted.

What are the means for obviating the various sources of exhaustion. 'If,' says Dr. Hall, 'this be uterine hæmorrhagy, the following application is, I think most effectual in arresting it. A lotion is prepared by dissolving from one to two drams and a half of sulphat of zinc in a pint of soft water ; a scroll of linen is then made of a proper form and bulk to fill the vagina ; this scroll is then fully imbued with the lotion, introduced into the vagina, and renewed frequently. The same lotion may also be applied externally.'—§ XLVI. The Tincture opii, Tinct. Camph. Comp., the sp. ammon. aromat., æther, wine, &c. are other useful remedies. In one case, opium, the ext. hyoscyami, and the carbonas ammoniæ were combined with the best effect. The effects of the above remedies are sleep, the prevention of exhaustion, and the relief of many distressing symptoms. The diet should consist of chicken broth, one part of milk and two or three of water thickened with arrow-root, &c. These, or something similar, should be given in small quantities, and every hour or oftener according to circumstances.

Such is the treatment which Dr. Hall has found most beneficial in the general case of this malady. He goes on in the next place to point out what is to be done in the severe local affection and pain, which are among the symptoms of this puerperal affection. And first of the HEAD. 'When the head is much affected, a cold lotion, and fomenting the feet with hot water, are very useful. It may be difficult to determine whether leeches should be applied,—and still more difficult, whether recourse should ever be had to the lancet. I think leeches may be sometimes necessary, when the complaint is the effect of irritation ; but they can only palliate ; and the affection of the head can only be removed by the removal of the cause, whether irritation or exhaustion. When the head is affected from exhaustion even leeches might appear improper. Venæsection must always be a very hazardous remedy, and ought, I think, to be proscribed in these cases altogether.'—§ L.

In a painful and tender state of the *abdomen*, similar observations apply. To the above means in this case, enemata, purgatives, opiates, fomentations and liniments are to be added. 'Venæsection only aggravates the pain, as it seems to do most of the effects of irritation, and may prove fatal to the patient.'—§ LI.

'In the attack of jactitation,—of oppression of the breathing,—of palpitation,—of faintishness, &c. a draught with tinctura opii. sp. ammoniæ aromat ; opening the door and window, fanning, bathing the temples with vinegar, the smelling bottle, and aromatic vinegar, are all important.'

‘As a PREVENTIVE of such attacks, great quiet of mind and body is of the utmost importance; company, talking, noise, &c. should be cautiously and repeatedly interdicted; the benefit of days of care may be undone in one moment of disturbance.’ ‘For the sickness, and indeed for all the uneasy sensations of this complaint, the effervescing mixture is of the greatest benefit.’

‘The patient’s apartment should be kept cool, and free from every source of disturbance,—from too great light,—and from noise. In some cases, I have recommended the eyes to be covered with the cold lotion, and the ears to be stuffed with muslin, as the best protections from glare and noise.’

‘All this is peculiarly necessary whilst the patient is *asleep*. And in those cases in which the sleep is disturbed, and the moment of awaking is attended by great alarm and agitation, the sleep should be watched. If there be any agitation from dreaming or otherwise, the patient should be gently and cautiously awakened, and soothed and calmed if there should be alarm; and the best mode of awaking has appeared to me to be by offering a little nourishment,—the mind by this means being immediately collected to understand the state of things.’ ‘Much too may be done in the moments of alarm, agitation, palpitation, panting, &c. by judiciously trying to sooth and calm the patient, by just assurances of the degree of safety, &c.; and perhaps still more, by warning the patient, in the absence of the attack, that such attacks are still to be looked for, and that when they do occur, she must use every effort to compose herself.’ Vid. from § LII. to LVII. inclusive.

On a similar Morbid Affection occurring independently of the Puerperal State.

This affection has for its causes Irritation and Exhaustion. It may not only occur independently of the puerperal state, in females, but has been seen though more rarely, even in the male sex, and in infancy.

‘A deranged state of the stomach and bowels, and intestinal irritation, are incident to all periods and circumstances of life. The chief sources of exhaustion, which occur independently of confinement and miscarriage, are uterine discharges,—hæmorrhagy, menorrhagia, leucorrhœa;—protracted lactation;—diarrhœa;—purging;—bloodletting;—various diseases;—and the accessory causes enumerated from VIII. to XV.’

This affection has already been noticed by the author, in his work on the *MIMOSSES*, under the title of *MIMOSIS INQUIETA*. A review of this work was published in No. 1. Vol. IX. of this Journal. Its causes, symptoms, and tendency, with cases, are contained in the review referred to. Dr. Hall treats of this

affection in his work on the *MIMOSSES*, as occurring in the course of some disease. In the work before us, he observes, that 'this affection may arise originally from intestinal irritation and exhaustion;' and to the statement he made in his former work, he now adds such changes and additions as he finds penned in the margin of his private copy. We shall confine our extracts to these changes and additions, and to such sections as are not given in the former Review.*

'A frequent appearance of this affection is in the form of restlessness and jactitation; there is an expression of anxiety, change of posture, throwing about of the arms, and a great appearance of oppression, hastiness, hurry and alarm,—often with *cruciations, palpitation, panting,*' &c. § LXIII.

'There is sometimes delirium manifested by an unconnected expression, or of a more continued and active form. Sometimes there is pain of the head, throbbing, vertigo, intolerance of light, noise, disturbance, &c. There is generally great susceptibility to impressions of every kind,—to agitation, hurry, fatigue, anxiety, attention, speaking, &c. Sometimes the patient awakes hurried, frightened, and with some alarming feeling. There is wakefulness or hurried dreams.' § LXIV.

'At other times, there is a hurry of the breathing, with heaving, sighing, panting, moaning and catching, whilst there is the expression of great distress and fear in the manner of the patient, and an urgent desire for opened windows, fanning, the smelling bottle,' &c. § LXV.

The LXVI. section is the same with the 302d. in the *Mimoses*. The LXVII. differs from the 303d. §. of that work, in stating that the symptoms manifested in the heart, are *particularly apt to be induced on falling asleep, on awakening, on being startled, &c.*

'The pulse is apt to become frequent, and irregular and intermitting; during the palpitation, it is bounding and thrilling; it is often of unequal frequency in different parts of a minute; and it is accelerated by the slightest cause.' § LXVIII.

'A continued spasmodic affection of some part of the body, a distressing hiccough, or similar symptom, has occurred in some instances.' § LXIX.

'All these affections vary in degree in the same and in different cases; they are observed to SUBSIDE, and to RETURN IN PAROXYSMS; and they are very liable to be REPRODUCED by any exertion of body or hurry of mind.' § LXX.

'When this affection arises principally from derangement of the digestive organs, it wears a less formidable aspect, and is attended with less frequency of the pulse, than in other instances. It is when

* The alterations and additions are distinguished by *Italics*

its longer continuance appears manifestly incompatible with the existing state of debility and exhaustion, that the affection puts on all its terrors. The occurrence of this affection in the last stages of diseases, combined with the symptoms of sinking, is generally mortal.'

§ LXXI.

'This affection must be carefully distinguished from hysteria. It is far more serious. It is of the utmost importance to take into the consideration the existing DEBILITY, EXHAUSTION, OR DISEASE.' § LXXII.

The treatment of the affection above described, is to be conducted upon similar principles, and with the same cautions, as when occurring in the puerperal state.

Concluding Observations.

After repeating the remark, 'that the effects of intestinal irritation and of exhaustion are somewhat similar, and that the two causes frequently co-operate,' Dr. Hall closes this portion of his work, with the following observations, which are quoted entire.

'It is also of importance to observe, that each of these causes seems to induce greater effect when the other pre-exists, than when operating alone. The symptoms detailed in the preceding pages, as effects of loss of blood and of exhaustion, occur generally from a protracted or repeated operation of the cause;—especially the throbbing of the head, the palpitation of the heart, &c. The effects of sudden and profuse hæmorrhagy are different, and do not need to be described. In the latter case, the proper remedies are applied, without hesitation; the former *appears*, perhaps, to arise *spontaneously*, and is not so manifestly connected with its cause, but is often mistaken for local inflammation, and often mistreated by remedies which co-operate with the exhaustion, aggravate the disease, and endanger the patient.

'It is also observable, that in some instances bleeding has been borne better than could be expected, when its repetition has been hurtful or even fatal. In some instances the loss of a little blood has not appeared to do particular or immediate harm, but even to give relief; in others, it has exasperated the throbbing, palpitation, or pain; and the practitioner has been led, by the apparent benefit conferred, [conferred] or by the apparent obstinacy of the affection, to a fatal repetition of the same measure.' §§ LXXV. to LXXVIII. inclusive.

The remaining portion of this work consists of cases, thirty-three in number. These cases are highly instructive. They are the sources from whence the theoretical and practical views contained in the first part of this little volume are derived, and enable the reader to test their correctness by a reference to the

facts themselves. In four cases, the fatal consequences of persisting in bloodletting in the treatment of this affection, are fully displayed; while in the instances in which it was tried, the utility of Dr. Hall's method of practice is abundantly shown.

Is it, it may now be asked, the intention of the author of this work, to revolutionize the present practice in *puerperal fever*, or in any degree to invalidate the testimony adduced by Gordon, Hey, and Armstrong, in favour of purging and bloodletting, in that disease? This is no part of his object; and yet the practice of those authors is not blindly to be pursued in what *appear* to be the genuine cases of that fever. Mr. Hey acknowledges, that *some* of the worst cases in his practice occurred after the excessive operation of a purgative.* In these instances, the purgative was given for prevention. It might seem, that the fatal tendency of such cases was, in some degree, connected with the exhaustion induced by the *preventive*; and this, notwithstanding the opinion of Mr. Hey, that the after treatment of these cases was not less successful, than of those in which the violence of purging had not given the worst character to the disease. Dr. Hall's work is most valuable, because it imposes the utmost caution in the use of powerful remedies in *doubtful cases*; while it requires of the practitioner an equal watchfulness respecting the *effects* of remedies, particularly *bloodletting*, in cases where no doubt exists. He offers it as his unqualified opinion, that the affection of which he treats 'constitutes a great proportion among *puerperal cases*, and a great majority of the fatal ones;' and, farther, that of these fatal cases many are rendered so by a mistaken use of the lancet.' Dr. Hall finds full sanction, in these convictions, for the earnestness with which he enforces his practical views; their correctness in the extent to which he carries them, can only be determined by a wider experience.

The part of the work which seems to have been passed over most rapidly by the author, is, that which regards the *DIAGNOSIS* of the affection. This, however, is of the last importance, when it is recollected that *puerperal fever* may be confounded with it, and a fatal delay in the use of the only means of subduing that disease be the consequence. Dr. Hall refers boldly to the *effects* of remedies, particularly bloodletting, as means of *diagnosis*, and in the increase of pain, and of the other symptoms, finds a cause for increased *prudence* and *watchfulness*. The caution is certainly founded in right reason; but we think it no less the duty of the practitioner to ascertain, if possible, whether his remedy has *subdued the disease*, or whether the increase of alarming symp-

* Treatise on puerperal fever, by William Hey, Jr. &c. p. 155.

toms manifested under the use of his remedies, is not the progress of the *disease* towards a fatal issue, and not the increase of a *dangerous exhaustion*. We are induced to offer these cautionary remarks to qualify, in some degree, the influence of the observation of Dr. Hall above quoted, namely, that the affection treated of in his work, *constitutes a great proportion among puerperal cases, and a great majority of the fatal ones*. We do it more especially with a view to solicit from the practitioner such an investigation into the disease and its whole history, as will furnish him the means of diagnosis, which last, in Dr. Hall's work, is by no means fully given. In this way only can the true end of this work be accomplished, which is to enable us to distinguish very important diseases, and to point out the treatment of an affection which the author thinks has not before been fully understood.

SELECTIONS.

Medico-Chirurgical Transactions. Vol. X.—Part. II.

Experiments on a few controverted points respecting the Physiology of Generation: By JAMES BLUNDELL, M. D., Lecturer, in conjunction with Dr. Haighton, on Physiology and Midwifery, at Guy's Hospital.

[From the Medical Intelligencer, and Monthly Analytical Index.]

THIS paper is to prove that "the semen must have access to the rudiments, (which are formed by the female), in order that the young animal may be produced; and yet, that generation, although these approaches are necessary for its completion, may, to a certain extent, be accomplished without them." The experiments, upon which these opinions are grounded, are given. They were made upon the rabbit. In some, obstruction was produced in one horn of the uterus; in others, in the vagina; so that, in neither case, could the semen pass on to the ovaries; and consequently impregnation did not take place in any instance, although the uterus became turgid, and other collateral actions were developed. Dr. B. found, among other facts, that although ova and corpora lutea were formed in both horns of the uterus, notwithstanding one of them had been rendered barren from being obstructed; yet, that neither ova nor corpora lutea* were ever formed, except when impregnation had partially or wholly taken place. This account differs materially from Sir Everard Home's statements made in the Philosophical Transactions (See Med. Int. p. 14). Dr. B. further observes, that in all his cases where impregnation was prevented from taking place, the uterus, in consequence of repeated connexions with the male, became distended by an albuminous fluid.—This fluid Dr. B. considers to be part of the rudiments, which, he supposes, come down from the excited tubes, to be impregnated by contact with the semen in the uterus. In short, he supposes, that corpora lutea are never found prior to connexion, except under states of long continued desire; but that the effect of connexion is, under ordinary circumstances, impregnation,

* Dr. B. seems to believe that these bodies are the remains of discharged ova, as was formerly thought. Sir E. H. says otherwise.

from contact of the semen in the uterus with what he calls the rudiments of conception, which have come down from the excited tubes : or in obstructed uteri, non-impregnation, only however, from a want of the semen to complete the process ; the rudiments, consisting of the ova, &c. being equally formed and carried into the uterus.

Dr. B. then answers some objections to his theory ; and is led to state, that a peristaltic motion is constantly going on in the vagina and uterus of the rabbit, during the time it is at heat ; and he surmises, that a similar motion may occur in the human vagina.

In the latter part of his paper, Dr. B. qualifies his theory by stating, that corpora lutea may be formed, "even independently of the sexual intercourse, by the mere excitement of desire in a very high degree ;" and he concludes by supposing, that as conception takes place from contact of the semen with the rudiments in the uterus, extra-uterine conception may arise, whenever the semen passes beyond the uterus into the Fallopian tubes. It being a consequence of his theory, that, in such cases, the semen must pass into the Fallopian tubes.

Some observations on the mode of performing Operations on Irritable, patients, with a Case, where the practice was successfully employed. By JAMES WADROP, Esq. Surgeon-Extraordinary to the Prince Regent.

THIS method is to operate upon them, when in a state of deliquium, produced by venesection. A case in point is given, where the operation consisted in removing a tumour as large as an almond, from the orbitar plate of the frontal bone ; the patient required a loss of 50 ounces of blood before she fainted, but she recovered very rapidly, and without a bad symptom.

History of a case of Bony Tumor successfully removed from the head of a female. By ROBERT KEATE, Esq. Surgeon to their Royal Highnesses the Duchess of Gloucester, and the Prince Leopold, and Surgeon to St. George's Hospital.

THIS tumour "proved to be an enormous collection of hydatids, between the two tables of the frontal bone." Much head-ach, and constitutional derangement was produced by the pressure of the internal table upon the brain. The cure was exceedingly protracted, and the methods employed, tedious and painful ; but at last, the whole of the diseased bone was removed, either by the saw or by the different caustics, (including

the actual cautery, used, however, in its worst form, viz. at a low temperature.) The case is given in minute detail.

Some account of a case of Obstinate Vomiting, in which, an attempt was made to prolong life by the Injection of Blood into the Veins. By JAMES BLUNDELL, M.D. Lecturer, in conjunction with Dr. Haighton, on Physiology and Midwifery at Guy's Hospital.

In a case of scirrhus pylorus attended by the most extreme emaciation and inanition, between twelve and fourteen ounces of blood, apparently from the arm of a by stander, were injected into the right cephalic vein, in divided portions. About 30 or 40 minutes were consumed during the operation. Much care was taken to prevent the passage of air into the vein.—Very little benefit arose to the patient for some hours; but, after that time, he felt “much better and less fainty,” his skin was more suffused, and he was evidently much relieved, no inconvenience having occurred from the operation. After an interval of two days, however, he began to droop, and gradually died of exhaustion, “56 hours after the injection.” There was found, on dissection, only a slight discolouration of the cephalic vein, in the immediate neighbourhood of the orifice.

Dr. B. remarks, that the relief from this operation was very distinct, and he does not wonder, that so small a quantity of transfused blood should have supported the constitution for so short a time only, because, as he estimates, from two cases of thoracic inflammation, where a gallon and a half of blood was taken from the arm in five days, without violent symptoms of inanition being produced, that at least a similar quantity of blood was deficient in this poor man's body.

The operation appears to be a very simple one, as “a little tube and syringe were the only novel instruments required,” and to be unattended with danger, at least under cautious management. The partial success attending it in this case, warrants its repetition in perhaps many states of inanition.

Case of Bronchocele, in which, the superior thyroideal artery was successfully tried. By HENRY COATES, Esq. Surgeon to the Salisbury Infirmary.

THE tumor was large and pressed upon the trachea; the artery was seen strongly pulsating. No difficulty seems to have been found in laying bare the artery, and separating it from its accompanying nerve, by means of a bent probe. The tumor was, in a

short time, "reduced nearly half" in size, and the patient left the Infirmary quite well.

A statement of facts, tending to establish an estimate of the true value and present state of Vaccination. By Sir GILBERT BLANE, Bart. M.D. F.R.S. Physician in Ordinary to the Prince Regent.

IN this philanthropic essay, Sir G. Blane has pointed out, what he considers to be, the true value of Vaccination ; but with regard to the other part of the title of his paper, viz. its "present state," we find but little information, either on the one side of the question, or the other. And yet, it is evident, that a true knowledge of the present state of vaccination is of more consequence, in estimating its *future* value, than any statistical account of what it has already done. The question with respect to vaccination is, not the good it has done, which unquestionably is very great, but what is the good which we may expect from it in future ; or, in other words, whether the good effect of vaccination be permanent. During the first ten or twelve years of the practice, a few cases of failure occurred, but they were not in sufficient number to occasion alarm ; since that time, however, such cases have multiplied in so much greater a proportion, than the increasing numbers of vaccinated persons would seem to authorize, that serious, and perhaps well-founded doubts have been entertained by men, who, in the language of Sir G. Blane, may be called men "of good principles and feelings, capable of reflecting seriously and considerately on the subject," as to the ultimate benefit which is likely to accrue to mankind from vaccination. The question is one of vital importance, and demands the most temperate and deliberate consideration ; and it will neither be truly decided, by dwelling exclusively on the facts of either side, nor by arguing the matter with violence, and in the spirit of a partizan. The most strenuous supporter of vaccination should recollect, that if the truth be really against it, even he, with the rest of the world, would be benefited by its being given up ; and therefore, the whole medical profession, ought to labour ardently, not that either side of the question should prevail, but that the truth should be made manifest. Let them, therefore, each bring to the discussion, candour, caution, sufficient industry to collect facts, and a desire to find the truth, wherever it may lie, and the question will soon be decided, and mankind be benefited to the utmost.

Sir G. B. is a staunch supporter of vaccination, and to prove its advantages, he has "selected from the bills of mortality four

periods, each of fifteen years, for the purpose of exhibiting the mortality of small pox in each of these periods, in regard to each other." The first period is from 1706 to 1720, that is preceding the introduction of inoculation : the second from 1745 to 1759, after the introduction of inoculation ; the third from 1785 to 1798, just preceding the introduction of vaccination, and the fourth from 1804 to 1818, after the introduction of vaccination. During the three first periods, the small pox would seem to have become gradually more fatal, in spite of inoculation ; in the last, the ratio of the mortality from small pox, has decreased to nearly one half ; so that during the last period, Sir G. B. calculates, that vaccination, although so imperfectly practised, has saved 28,134 lives in this metropolis alone.

After stating, in another part, that the small pox has been eradicated from some countries, by means of vaccination, Sir. G. B. remarks, that if the whole of mankind would agree to vaccinate in a sufficiently decided manner, for a short time, that the small pox might be "instantaneously, and for ever banished from the earth." We doubt this ; whence had small pox first its birth ? probably from the occurrence of some peculiar assemblage of physical phenomena ; and may not such an assemblage happen again, and reproduce the disease ? undoubtedly it may, and probably has done repeatedly, without our perceiving it ; but this is a matter of small moment, inasmuch as the world is still, alas, too barbarous, to give us an opportunity of making the experiment. The real point in debate is, whether the numerous cases of failure, which have lately occurred, have arisen from a want of power in the cow pox to secure the constitution, for a continuance, from the effect of small pox contagion, or whether, as we hope, and almost think is more probable, the increased number of failures has arisen partly, from the greatly increased number of vaccinated persons, and partly from a multitude of persons who have been imperfectly vaccinated. Let us pray that the question be speedily and securely settled.

On the structure of the Membranous part of the Urethra. By JOHN SHAW, Esq. Demonstrator of Anatomy, Great Windmill Street.

THE urethra is considered by Surgeons to be a muscular tube ; Mr. Shaw, on the contrary, believes, that it is only elastic, and he has displayed much industry and acuteness, in collecting facts to prove his position. Of course, he considers the terms, spasm of the urethra, spasmodic stricture, &c. to be entirely erroneous. He believes stricture to be a permanent thickening of the canal, preceded by inflammation. In conclusion, Mr. S. describes

what he supposes to be a new structure in the membranous part of the urethra; a new internal corpus spongiosum. If a mercurial injecting pipe be properly introduced under the mucous membrane of the urethra, "the mercury will not flow into the spongy body, but will pass under the membrane of the urethra, filling a very remarkable net work of veins. These veins are spread all over the urethra; but at the membranous part, they are accumulated, lying one over another in the length of the canal, so as to form two distinct columns, with a groove between them, which extends from the caput gallinaginis to the glands."—A plate of this appearance is given; but we are not convinced that the apparent vessels are not in reality, cellular membrane; we would not however, hazard an opinion upon the subject, without consulting the dead body.

Some observations on Inversion of the Uterus, with a case of successful extirpation of that organ. By JOHN WINDSOR, F.L.S. Member of the Royal College of Surgeons, and Surgeon to the Manchester Eye Institution.

Mr. W. believes, that inversion of the uterus happens more frequently than is generally supposed, and that death often occurs soon after the accident, from hæmorrhage. In more protracted cases, repeated attacks of hæmorrhage occur, attended by re-action of the constitution, costiveness, and want of the power of passing urine. These symptoms gradually abate, but periodical hæmorrhage at last exhausts the constitution, and the patient perishes, unless "some decisive means are devised for her relief." Mr. W. then relates, in detail, a successful case of extirpation of the uterus, by means of the ligature. On the 12th day after applying the ligature, which was tightened every day, and generally with the remarkable effect of decreasing the velocity of the pulse, the substance of the uterus was found to be divided, so that the remaining peritoneal membrane was cut through, by means of a scalpel, and the uterus was removed.

The case was throughout, an anxious one, as symptoms of considerable reaction, and latterly of great irritability of the constitution occurred; but the woman, whose age was 30, eventually recovered perfectly. Mr. W. recommends, that in any future case, a ligature shall be first passed as high as possible, and the uterus then cut away; the ligature being afterwards removed within a few days, or whenever all chance of hæmorrhage has ceased; or at all events, that a double ligature shall be used.

In the present case, the os uteri still remains at the extremity of a vagina, about three inches long, and feels to the touch, much as it would do naturally.

Description of an Urinary Calculus, composed of the Lithate or Urate of Ammonia. By WILLIAM PROUT, M.D. F. R. S.

FOURCROY first describes this species of calculus. Brande and the English Chemists doubted its existence; but Dr. P. in this paper, relates a case, in which, the calculus was undoubtedly composed of urate of ammonia. It was extracted from a boy, two years of age, by Mr. Cline, jr. It was a flattened ovoid, was of a greenish clay colour, and smooth, was composed of thin concentric layers, and weighed about 50 grains. Between some of the layers were minute depositions of the earthy phosphates.

The boy suffered extreme irritation before the operation, and his health was much deranged. His urine *after standing for some days*, abounded in urea, and the triple phosphate of magnesia and ammonia.

Dr. P. alludes to another, and similar case. He believes, that the complaint did not return in either of them. He supposes, that this rare species of calculus "is peculiar to children under puberty," especially as the morbid urine of children sometimes throws down a peculiar clay coloured deposition, which probably "consists partly of lithate of ammonia."

Case of a presentation of a Bag of Water after Delivery, unconnected with Plurality of Children. By JOHN DUNN, Esq. of Pickering, Yorkshire.

A woman of full habit was delivered of her first child at the age of 47. The placenta did not follow naturally, but on slightly pulling the cord "a bag containing at least a pint of water presented." It was quite tense and was ruptured. On introducing the hand into the uterus, four hours afterwards, the placenta still adhered firmly, but separated spontaneously for three-fourths of its extent; the remaining fourth however adhered by almost a cartilaginous union. By perseverance, this portion was also separated from the uterus, and the patient got rapidly well.

Observations on the Relaxed Rectum. By THOMAS CHEVALIER, Esq. F. R. S. and F. L. S. Surgeon extraordinary to the Prince Regent, and consulting Surgeon to the Westminster General Dispensary.

THIS disease is said generally to be preceded by an acute or chronic inflammation of the part; but it may probably sometimes arise "from a loss of tone simply." The large intestines are most usually the seat of over-distension, but it is occasionally found in the small intestines. When it occurs in the rectum, it is a common cause of obstinate and habitual costiveness. In other instances, a daily discharge of thin *fæces* takes place, although the rectum remains filled with solid excrement. We remember a case of this kind, in which we were led to suspect its existence from the thin discharges which passed every day, being composed entirely of perfect *fæces*, diluted by a thin fluid. A very large quantity of excrement was removed, in this case, by mechanical means, and the patient did well. But, if the disease be not discovered, it extends up the canal, and produces complicated states of disease. Discharges of puriform mucus, and protrusions of the upper portions of the disordered intestines occur, and the disease, at last, forces itself upon the patient's or his medical adviser's attention. Purgatives are usually administered for the cure of this state; but glysters are much more efficacious, when employed at regular intervals.—When the intestine has been perfectly emptied, astringent injections may be administered.

On Affections of the Meatus Auditorius Externus. By HENRY EARLE, Esq. Surgeon to the Foundling Hospital, and Assistant Surgeon to St. Bartholomew's Hospital.

Mr. E. describes an inflammatory affection of the external passages, which, when it has become chronic, produces a thickened state of the cuticle lining the passage, and covering the membrane tympani. Nearly total deafness is the consequence. He removed this state, and restored the power of hearing, by injecting a strong solution of nitrate of silver; by this application, the cuticle was destroyed, and in a few days, by the aid of warm water injections, separated in flakes. The hearing returned, the glands secreted wax, and the patient was permanently cured.

Mr. E. describes also, a leprous state of the passage, in which the scales are glued together by the cerumen. He mentions too, other states of the cuticle or cutis, which produce deafness

in a similar manner; and he believes, that the healthy secretion of cerumen has a material influence in preventing the formation of most of these disorders.

Auxiliaries to Medicine, in four tracts. By CHARLES GOWER, M. D. &c.

An account of a Sudatorium.

THIS simple and cheap apparatus, which Dr. G. informs us is the invention of an ingenious American, consists of a wicker frame, shaped like the body, is placed over the person as he lies in bed, and the bed cloaths are made to cover the frame. From the end of this frame, a tube is carried downwards at the foot, of the bed, where a spirit lamp is placed, and thus a stream of hot air is carried into the frame, and perspiration is speedily induced. We consider that an apparatus like this, would be very useful in the latter periods of some diseases, where the extremities, and skin generally, are morbidly cold; and perhaps with some modification, it might be applied to the exhibition of sulphur, and other substances, in the form of vapour.

The description of an Instrument called a pulsator.

DR. G. makes some sensible remarks upon the value of friction, in preventing and curing diseases; and his pulsator is a kind of hammer of cork, with which the skin is to be either rubbed or struck. We do not quite understand the mode of application, but the utility of the two much-neglected remedy, friction, has been acknowledged from the earliest periods.

A description of an Illuminator.

THIS is a small dark lantern, with a nozzle, which contains a lens, like that in the magic lantern. Its use is, to cast a strong light upon the inside of the throat, when the nozzle is placed near the open mouth. All the above instruments may be bought at a moderate price, at No. 14, Gerrard-street, or 52, Frith-street, Soho.

An account of an Easy Chair, entitled a Valetudinarian.

WE dare say, that this is a useful mechanical contrivance; inasmuch, as it is so arranged, as to answer all the purposes of a chair, a couch, or a bed, under various states of disease and helplessness; but we fear that the whole machine is too complicated in its construction for general use.

Manuel D'Anatomie, contenant l'exposition des Methodes les plus avantageuses à suivre, pour dissequer, injecter et conserver les parties qui composent le corps de l'homme. Par J. N. MARJOLIN, 2 tom. 8vo. Paris, Mequignon-Marvis, 1815. pp. 1188.

THIS publication is much recommended as a work on practical anatomy; but the remainder of the article is devoted to an excellent and powerful appeal to the profession, to the legislature, and to the public, against the deplorable obstacles which are thrown in the way of the study of anatomy in this country. Whilst the rest of Europe enjoys an almost unlimited power of prosecuting anatomical researches; this necessary study, although it is winked at in this country, subjects its professors, by the laws of the land, to an indictment for misdemeanour, if not for felony, whilst engaged in their philanthropic pursuits. We must refer to this essay itself for the details, which it contains, but a plan is proposed, for the adoption of the legislature, by which the bodies of all persons dying in work-houses, hospitals, and prisons, whose friends shall not have given security for the bodies being decently buried, should be given, under certain restrictions, for the purposes of dissection. We cannot, however, refrain from quoting the excellent manner in which the writer has shown the inconsistency of the English public; who, in their rejoicings after a victory, gained, perhaps, only to pamper the appetite of inordinate ambition, indelicately forget the thousands of their countrymen who have fallen in the pride of health and beauty,—the widows' tears too, and the lamentations of children made fatherless; whilst, if the "bodies of a few wretched individuals who expire in the hospitals, worn out and disfigured by disease, without a friend or a relation to carry them to the grave," be taken for dissection, and this, too, for the furtherance of one of the most benevolent sciences which can adorn humanity, this same unthinking "feeling" public hold up their hands in horror, and threaten with condign punishment the unfortunate surgeon, from whom they would, the next minute, seek for, and obtain damages, by an action at law, if he did not possess that knowledge which he could not possibly have obtained, unless by the dissection of the dead. It is calculated that 2000 bodies annually would amply supply the Schools of London, Edinburgh, Dublin, and Glasgow.

On the use of the Prussic Acid in Consumption. By F. MAGENDIE, M.D. &c. a Paris, 1819.

FROM Dr. M.'s success in curing convulsive and spasmodic coughs, by means of prussic acid, he was led to try it in phthisis, and found it an excellent palliative; indeed he even thought, that two cases of marked consumption were cured by it, in the dose of six drops in the 24 hours, persevered in for two months. A summary of its value, as a remedy, is given from the practice of several eminent physicians, and though it is considered not to be more than a palliative in consumption, yet its exhibition is recommended in asthma, chronic catarrh, hooping cough, disorder of the bronchia, and spasmodic coughs, connected with an irritable state of the nervous system. The prussic acid certainly seems to exert a powerful effect upon the nervous system; or rather upon such spasmodic states, especially of the lungs, as we call nervous. We have seen it of much use in hooping cough, but have not been able to depend upon its effects, on account, as we learn, of the rapidity with which the acid is decomposed, even when mixed only with simple distilled water. In fact, we have understood, that Mr. Brande mentions in his lectures, that the decomposition takes place in a very short space of time, and that then, nothing but a little ammonia is given. Would the prussiate of potash be more manageable, and carry with it any of the properties of the prussic acid? We intend to try it.

In conclusion, some excellent remarks are given, by the editor, upon the desiderata, which a more attentive investigation of the different forms of consumption might perhaps supply. Consumption is indeed, a disease which destroys many people by its name alone. It must, and will, be more closely studied, and we hope and trust, that the profit will amply repay the labour bestowed upon it. M. Bayle's treatise is held up as a model for imitation.

Antim. Tart. in Opacity of the Cornea. By DR. WITYMANN.

An ointment is formed of fresh butter and castor oil, of each one drachm, and antim. tart. from 4 to 20 grains. A small portion of this ointment is inserted between the eyelids every night and morning. Amendment commences in eight days, and the cure is accomplished in a month or six weeks. General remedies for derangement of the health must be used if necessary.

Acetate of Lead in Thoracic Complaints.

DR. HARKE strongly recommends this remedy in cases of morbid irritability of the lungs, as in Phthisis. Dose, gr. ss. every night and morning.

Popular Remedies used in some remote parts of Russia. By DR. REHMAUN.

PARNASSIA palustris in retention of urine; Androsace lactea in retention of urine, epilepsy, and vesical calculus; chrysanthemum leucanthemum in leucorrhœa; gentiana macrophylla in cerebral excitement, delirium, and sleeplessness; dentaria bulbifera, the leaves, and especially the root, in nervous affections and epilepsy; convallaria polygonatum in gout and rheumatism; gentiana campestris in worms; statice speciosa in uterine relaxation, esiphorum polystachion in epilepsy and spasmodic affections; the fresh leaves of parsley in glandular indurations; powdered coal, or the hypericum perforatum with brandy in dysentery; ranunculus acris, and R. Aconitifolius, boiled in beer, in gout; and rubus chamæmorus in retention of urine from atony of the bladder.

Medical Transactions, published by the College of Physicians in London. Volume 6th. 1820. pp. 426. 12s.

History of a case of Strangulated Hernia successfully treated by the application of ice, after the attempt at reduction by the taxis had failed. By G. D. YEATS, M. D. F. R. S., Fellow of the Royal College of Physicians, &c. &c.

THIS is a case of congenital hernia, which suddenly became strangulated on using exertion. Symptoms of considerable inflammation speedily occurred, with a pale and sunk countenance. The patient could only sit bent forwards, and the tumour was exceedingly painful to the touch. Twelve ounces of blood were taken from the arm, and twelve leeches were applied to the tumour. Considerable relief followed this practice. Five grains of calomel, with a grain of opium, were given; and a grain of calomel was repeated as a relaxant, every hour afterwards. When the leeches had ceased to bleed, ice was applied to the tumour, and kept constantly to the part by surrounding it by a twisted towel folded into the shape of a well. Purgative glysters were also given. Ten or twelve hours had now passed away, and the tumour was certainly less in size; the patient being so far easier, that he could lie horizontally with comfort.

The taxis therefore was attempted ; but it was soon discontinued on account of the pain which it produced. At the expiration of 24 hours, the symptoms were still further alleviated, and in a few hours more, the hernia passed into the abdomen after the action of a purgative glyster, and carried the testicle with it ; the latter, however, returned into the scrotum on the following day.

This case may be an improvement on the general practice, yet the example which even it holds out, is fraught with danger. We believe that almost every hernia may be reduced whilst in its progress towards strangulation, if the attempt be made with sufficient skill, gentleness, and perseverance ; and that all delay after bleeding to fainting, the use of the tobacco glyster, or of other similar means, is wrong in principle. Moreover, we believe, that under skilful management, the taxis will seldom fail. Nothing but slackening a vice can relieve the finger that is pinched by it ; and thus it is useless to depend on any treatment except slackening the powers of the constitution by sudden depletion, and then, if *skilful taxis* fail, to proceed to the operation. We leave our readers to compare these principles with the practice in the above case ; only mentioning, that it is probable the taxis would have reduced the gut long before it went up spontaneously.

Some Observations on Paraplegia in adults. By MATTHEW BAILLIE, M. D. F. R. S. L. & E., Fellow of the Royal College of Physicians, &c.

HEMIPLEGIA is the most common form of paralysis in adults ; paraplegia is, however, said to have increased considerably within the last 15 or 20 years ; the cause being unknown.

Paraplegia is usually supposed to arise from some affection of the spinal cord ; but it has occurred to Dr. B to find, and other medical men have joined in the same observation, that where no accident has affected the spine by outward violence, this gradual loss of power in the lower parts of the body, has arisen from "a disease affecting the brain itself."

It is the object of Dr. B's paper to elucidate this fact ; and it is said that symptoms of increased action within the head will generally be discovered even in the early stages of such cases. The upper extremities are also sometimes affected with numbness, without a corresponding derangement being found in the cervical vertebræ. The dissection of one case is given, in which morbid congestions were found in the brain, with serous effusion within the cavities, and in the theca of the

spinal marrow. Recovery sometimes occurs in cases of paraplegia; Dr. B. says, however, that no plan of treatment is very successful in such cases. Bleeding, alterative medicines, electricity, friction, and blisters, and setons to the neck comprise that which he recommends.

Much obscurity still hangs over these complaints. In the first place, dissections of the spinal cord are very seldom made; and hence diseases may be attributed to affections of the brain, which have actually commenced in the vertebral canal; especially too, as, in the second place, perhaps, the readiness which exists in the brain to be affected in spine cases has not been sufficiently attended to. Symptoms of cerebral disorder are very often found in pure affections of the spinal cord. In one, to us very interesting, case, where inflammation of the spinal cord, at the top of the lumbar vertebræ, took place some weeks after a wrench in skating, pressure on the tender part of the spine produced the most alarming affections of the head and heart; confusion, dimness of sight, syncope, convulsions, and an almost total cessation of the heart's action were amongst these symptoms; the breathing being at the same time most laborious. In one instance, these symptoms followed the slight pressure which was made by changing the position of the body in bed. We have heard also one of our friends quote another fact, which points at the same consentaneous action between the head and the spinal marrow; the observation that women who have distorted spines, are often affected by intractable headaches.

On the other hand, we witnessed the dissection of a case of paraplegia, a few weeks ago, which materially tended to prove Dr. Baillie's observations. A girl was seen to squint: paraplegia gradually supervened, the symptoms of head disease, however, kept pace with the paralytic affection; so that, a few days before she died, which was about three months after the attack, she was much emaciated, was paralytic, her head lolled from side to side, her arms were equally affected, her mouth was open, and her appearance nearly idiotic: but she had no pain in the head, and on the contrary, there was apparently an evident falling in of the fourth and fifth cervical vertebræ.

After death, congestion was found in the vertebral canal, but no derangement of structure; whilst in the head, the brain and membranes were much loaded with blood; much water was found in the cavities, and a large broken-down, or ulcerated mass was discovered in the substance of the left half of the pons varolii.

Observations Medicales. Par Jos. ROM. LOUIS KERCKHOFFS, M.D. &c. &c.

Dr. K.'s first observations are on Plica Polonica. He saw much of this disease whilst serving in Poland with the French armies. He says that it arises merely from the dirty state of the lower orders of Poles, joined to their custom of keeping their long hair continually covered by thick bonnets of wool, or other clothing. The higher classes are never afflicted with the disease. It is not contagious.

Two excellent cases of the disease are given. The one, of a boy in a state of insupportable filthiness, whose only extraneous symptom was great pain in the head. He was cured in twenty days by cleanliness, laxatives, and cutting off a few inches of the hair every two or three days. The other, that of a Jew, of 30 years of age, who was in a still more deplorable state of filthy wretchedness. In him, hectic fever was present, as well as grievous pain in the head. His nails also had grown to an immense length. His hair was cut off, without bleeding, by similar degrees, and his health was somewhat improved by tonics and a generous diet.

Dr. K., in a second observation, recommends the use of the *pulvis corticis salicis albi* (Linn.) in *mucous phthisis*; as also of the *viscum album* (Linn.) in similar complaints. The latter on the authority of Dr. Leurs de Ruremonde.

In our own practice, chronic inflammations of the bronchia have, under certain circumstances, (we think of apparent accompanying cachexy,) been successfully treated by means of cinchona.

A case of death in a soldier from drinking a solution of *superacetate of lead*. The poor man died in three days with dreadful symptoms of gastric inflammation, sense of suffocation, drawing in of the belly, costiveness, cold, clammy sweats, and trismus. The lead was discovered after death in the stomach, and the surrounding parts were in a high state of inflammation. We once saw a gentleman die, as far as we recollect, with similar symptoms, after swallowing about half a six-ounce phial of solution given to him by a quack for an injection.

Dr. K. further states that, from a large experience, he is assured that *hospital gangrene* is produced by the same miasmata which form the remote cause of adynamic fever; and that fresh air and cleanliness are the best modes of preventing the complaint.

Scabies.—The common contagious scabies is certainly cured by the external application of an infusion of four ounces of the

flowers or roots of the *arnica montana* in two pints of boiling water, in which infusion two ounces of muriat of soda have been dissolved. This lotion is to be applied three or four times in the day.

Whitlow.—Dr. K. recommends the almost constant fomentation of whitlows by means of a hot solution of carbonate of potash, as a never-failing remedy; but we perceive that one preliminary to its beneficial use is “to make an opportune incision into the inflamed part.” Now, we should say to Dr. K., “Let us make the incision, and you may apply the potash solution if you like.”

We have been much gratified by these communications from Dr. K.

A description of an unusual appearance in the viscera of an infant, in which the Gall-Bladder was wanting. By HENRY JAMES CHOLMELEY. M. D., Fellow of the Royal College of Physicians, &c.

THE infant became icteric immediately after birth, and its stools were white and pasty, the urine being of a very deep hue. “At the end of five weeks, it was attacked with convulsions, which terminated its existence.” The child sucked well during life, but vomited almost constantly, the abdomen was not tender to the touch.

On dissection, the gall-bladder was found to be wanting; its place being supplied by “a narrow, impervious cord, about the size of the cystic duct, with a small knot at each extremity.” The head of the pancreas was very hard and scirrhus. Of course, the bile could not pass into the duodenum.

Remarks upon the effects of a Warm Climate in Pulmonary Consumption and some other diseases. By HARRY WM. CARTER, M. B.

Dr. C. argues, with all physicians of observation, that climate is only efficacious in the very incipient states of phthisis; or, perhaps, in those states, which may rather show a violent predisposition to the disease, than the existence of the disease itself. Several successful cases of this kind are mentioned. “When, however, (says Dr. C.) the disease has assumed a marked character; when there is much cough, with purulent expectoration, flushing and a frequent pulse, and emaciation, I believe that climate never effects a cure:” indeed, it is the opinion of medical men, that a warm climate, in decided cases, is

injurious. M. Risso, a resident practitioner at Nice, is clearly of this opinion; and Dr. C. mentions some cases, in which an aggravation of symptoms occurred, on a residence at Nice, although the climate of that situation is said to be as favourable as that of any other. Voyages by sea are said to be useful in averting phthisis; but often injurious when the disease is confirmed. Dr. C. concludes, therefore, "that, upon every consideration, persons in confirmed phthisis should never quit their own country;" whilst, in incipient cases, or in those of predisposition, a continued residence for years, during the winter months, is often absolutely necessary, and is always useful.

In discussing the advantages of particular situations, Madeira is said to be too mountainous; Barcelona and Malaga are recommended, if a person can give up English society; Lisbon is said to be bad; Marseilles and Montpellier are equally bad; Hyeres is good as to climate, but bad in other respects; Florence is bad; Rome not so good as Naples; but Nice is the best situation, in Dr. C.'s opinion. Vegetation is more luxuriant at Nice; the thermometer is generally as high as 57°, at nine o'clock in the morning, during the winter months, and the neighbouring country is very agreeable: but much care is required from invalids; no clothing is to be thrown off on account of the mildness of the air; the night-air and the south wind are to be avoided, and wines and seasoned dishes also are to be shunned. The fruits, however, of the south are recommended; but before, rather than after dinner.

Advantageous, however, as these climates may be in winter, they are all said to be improper during the summer season. In the early spring, invalids should remove to the Lago Maggiore, or the Lake of Como, or some spots in Tuscany; but in July, even these places will be too hot, and Geneva, or its neighbourhood, is said to form the best summer residence.

Dr. C. thinks that the climate of Nice was very beneficial to one case of gout; he thinks also that obstinate cases of chronic rheumatism and of asthma are benefited by a warm and equable climate; but, he has seen no advantages from it in cases of deafness.

On the Medicinal Properties of the Solanum Tuberosum, or potato plant. By JOHN LATHAM, M.D., F.R.S., President of the Royal College of Physicians.

MR. Hume, the Chemist, of Longacre, prepared about a pound of extract, from seven pounds of the stalks and leaves of the *solanum tuberosum*. Two grains of this extract formed a medi-

um dose, and was given three times a day. In a case of mucous cough, it gave as much relief as might have been expected from the extract of conium. Its use alleviated a very severe case of rheumatism, with distortion of the limbs and chronic cough; but the medicine was discontinued on account of its producing tremors and disturbance of the constitution, such as often follows the use of digitalis. It was used also in a case of calculus, and during its employment, "a piece of gravel, which had been fixed in the ureter, passed into the bladder," and was voided by the urethra. A chronic case of "tussis ferina," attended by severe nervous symptoms, was somewhat alleviated under its use; but Dr. L. attributed "nothing exclusively to the solanum." It produced no alleviation in a case of chorea; but although it was taken irregularly, the patient became more heavy, or comatose, than usual. It seemed materially to alleviate a protracted case of daily and violent cephalalgia, and partially relieved a patient who laboured under angina pectoris.

From these and other trials, Dr. L. considers the extract of solanum to be a narcotic, more powerful than hyosciamus and conium. One gentleman has given it in as large a dose as thirty grains, three times a day, in a case of cancer uteri.

On certain Painful Affections of the Intestinal Canal. By RICHARD POWELL, M.D., Fellow of the Royal College of Physicians.

Dr. P. believes that many supposed cases of the passage of gall-stones are, in fact, produced by a different cause. In four instances, where attacks of spasmodic and excessive pain in the epigastrium were attended by soreness to the touch, an irritable stomach, and clammy coated tongue, with jaundice, and unnatural stools, but were without fever or inflammation, he found, on minute inspection of the fæces, that an immense quantity of flakes of different shapes and sizes, but occasionally forming a perfect tube, sometimes of half a yard in length, had been voided. Dr. P. is inclined not to consider these membranes as coagulable lymph, on account of the want of inflammatory symptoms in the progress of the cases; but he surmises that they may be albuminous, from their becoming apparently fibrous when contracted by immersion in spirit.

Dr. P. discovered these flakes whilst searching minutely for gall-stones. He found that they remained as a residuum, after repeatedly washing the morbid evacuations in large quantities of water.*

* We are much obliged to Dr. P. for this useful hint on the best mode of examining evacuations from the bowels.

The most efficient mode of treatment was a steady perseverance in a mixture of compound infusion of gentian and liquor potassæ, with enough infusion of senna to produce four or more stools in the 24 hours.

Narrative of facts relative to the repeated appearance, propagation, and extinction of Plague among the British Troops employed in the conquest and occupation of Egypt, in the years 1801, 1802, and 1803; with remarks on its contagious nature; being the result of observations personally made by JOHN WEBB, Director-General of the Ordnance Medical Department.

THIS paper consists of a very lucid account of the medical history of the army of Egypt, as far as relates to the Plague; and although we cannot extract any part of it, or abridge it, yet it affords us much useful information. Mr. W. is perfectly assured, that the contagion of plague exists, and is of a most virulent description; indeed, all the excellent and efficacious arrangements which were made to check the extension of the disease when it showed itself, were founded on this belief in the contagious nature of plague; the disease was invariably traced to contagion, and its extension was invariably checked by quarantine regulations. In one case, the disease appeared fifteen days after the reception of contagion; in another, it was fourteen or fifteen days; and in a third, a medical officer, Dr. Whyte, was affected on the fourth day after inoculation, and died on the seventh. The question of the spontaneous production of plague is said to be involved in much obscurity. The plague would seem to be always present in Egypt; but it is more virulent at different seasons and times of the year. It is usually very violent in November, and becomes gradually less virulent until June, when it is generally supposed to disappear until its reappearance in November. Some terrible instances are incidentally given of the rapid and extreme violence of the disease under certain circumstances.

Mr. W.'s details occupy more than fifty pages; the whole paper is written with great clearness, and will be read with much interest.

Some observations on the nature and treatment of the Calculous Diathesis. By WILSON PHILIP, M.D., F.R.S. Ed. &c.

Dr. P., in 1792, published experiments on the states of the system which predispose to calculus disorders. Since then the subject has been much discussed, and especially, M. Magendie has broached a chemical explanation of the formation of calcu-

lus, which Dr. P. thinks is formed upon too confined a view of all the phenomena, and particularly, inasmuch as it takes the vital powers of the animal body too little into the account. Azote is indeed a component of lithic acid, and kidney calculi are usually formed of lithic acid, but this by no means proves that an indulgence in food which contains azote is the cause of calculus.

In further elucidation of the subject, Dr. P., after saying that the nuclei of almost all calculi are formed of lithic acid, details twenty-three experiments; and draws the following conclusions from them:—"1st, That acid and acescent ingesta tend to increase the deposition of lithic acid from the urine, and to prevent that of the phosphats."—Exper. 1, 2, 3, 4, 5, 6, and 7.

"2d, That a diet composed of a large proportion of animal food, tends to lessen the deposition of lithic acid, and to increase that of the phosphats."—*Ibid.*

"3d, That every thing which promotes the action of the skin, tends to prevent the deposition of lithic acid, and to occasion that of the phosphats."—Exper. 8, 9, 10, 11, and all to 22.

"4th, That dyspepsia tends to increase the deposition of lithic acid, and to lessen that of the phosphats; both by producing acidity of the primæ viæ, and by rendering the skin inactive."—Exper. 8, 9, 10, 19.

"5th, That indolence has the same tendency; both by inducing dyspepsia and by lessening the activity of the skin in proportion as it impairs the vigour of the circulation."—Exper. 21, 22. See also the observations made after exper. 22.

"6th, That an acid passes by insensible, as well as sensible perspiration."

Dr. P. further verifies some experiments of others, in which it is found, that the addition of an acid to healthy urine, causes a precipitation of lithic acid, and prevents that of the phosphats. Hence he concludes, that in acescent states of the primæ viæ, more acid than usual passes by the kidneys, and causes the deposition of lithic acid; especially as we find "that whatever corrects the superabundant acid in the primæ viæ, prevents the deposition of lithic acid, and disposes to that of the phosphats."

Moreover, as acid passes off by the perspiration, and the appearance of lithic acid in the urine is prevented by a free state of the perspiration, or augmented by its being in a languid state, a vigorous state of the skin forms a powerful means of preventing the formation of calculus, and diaphoretics prevent the deposition of lithic acid. It would seem, however, to be the most effectual to increase the insensible, rather than the sensible perspiration.

It must be remembered, that all healthy urine contains lithic acid, and an acescent state of the system merely acts by causing its deposition. Under ordinary circumstances, this deposition only occurs after the evacuation of the urine; but it is easy to understand, how a long-continued and increasing state of debility of the system may at last occasion its deposition in the kidney, and cause the formation of calculus.

This view of the subject shows M. Magendie's error. M. Magendie's practical deductions lead to the best modes of preventing the *formation* of lithic acid in the urine; whereas Dr. P. says, the proper curative indication is, to prevent its *deposition*; the existence of lithic acid in urine being natural.

These views of the subject certainly correspond to the known facts of the formation of calculi, and of the proper preventive treatment. But, as Dr. Marcet and others have well observed, although the nuclei of almost all calculi are composed of lithic acid, yet that depositions of various kinds are found on the surface of the calculus, in the progress of the disease. Thus Dr. Marcet says, "that a degree of putrefaction taking place in the portion of urine which remains attached to the surface of calculi, and occasioning an evolution of ammonia, necessarily tends to prevent the deposition of lithic acid, and produce that of the phosphats."

Many other circumstances, such as the diseased state of the cavities, &c. tend to vary the structure of the layers, which are, from time to time, deposited on the surface of the stone whilst in the bladder: but the practical deductions from Dr. P.'s paper point rather at the preventive treatment of calculus, than at its cure, when the disease is fully developed.

Dr. P.'s plan of prevention "consists of such an attention to diet, exercise, and a free action of the bowels, as tends to remove and prevent dyspepsia, and to support a due action of the skin, with the use of antacids, of which I have found soap the most effectual." It is said, however, that magnesia will, in general, form a good antacid, especially when mixed with a small portion of rhubarb; but that care is required in its use, when calculus is already formed, because it favours the deposition of some species of calculous matter; and in all cases, it may occasionally be injurious, by neutralizing "in the primæ viæ any portions of uncombined acid, by means of which the calculous matter might have been held in solution." The good effects of brisk purgatives in cases of calculus, is said to arise from its "removing acid from the primæ viæ, relieving the digestive organs from a load, and rousing them to better action;" we must therefore recollect, that antacids are only required, when we find, that,

notwithstanding the other parts of the treatment, "too much acid still passes off from the kidneys," which is shown by the deposition of lithic acid by the urine.

Dr. P. concludes, by commenting on the agreement of his theory with the modes of cure pointed out by M. Magendie, on its power of explaining some hitherto anomalous facts in the treatment, on the mistaken view which M. Magendie had taken, and on the truer light in which Dr. Marcet has viewed the complaint.

Contributions towards solving the disputed question, "What is the nature of the process called the Spontaneous Evolution of the fetus?" By ROBERT GOOCH, M.D. Physician to the Westminster and the London Lying-in Hospitals, and Lecturer on Midwifery at St. Bartholomew's Hospital.*

On the employment of Venesection in cases of sudden seizures, commonly called Fits. By JOHN LATHAM, M.D., F.R.S., President of the Royal College of Physicians.

Dr. Latham, in this paper, condemns the usual indiscriminate practice of bleeding all patients who fall down in what are called fits; inasmuch as he says, it is most commonly injurious to the patient. He concludes his paper by the following summary. He says, "that venesection is too generally employed, and the relief obtained from it in the first instances usually fallacious; that flaccidity of muscles, which depends upon the inanition of the vessels which nourish them, is a better criterion of the actual state of the vascular system than the pulsation of the artery; and that the unequal distribution of the blood, which, even in the weakest constitutions, may affect the head, will, in such debilitated habits, be more safely and effectually relieved by other means of depletion than by general bleeding."

We should have been thankful if Dr. L. had pointed out in what state or states of the constitution he considers the majority of sudden seizures to depend. On this subject he merely says, that they may be sometimes caused by congestions in the intestinal canal, causing pressure on the larger blood-vessels; or sometimes by flatulent distention of the stomach; and he recommends such means as will expel flatus or more solid matters from the stomach or bowels.

* We have noticed this paper in a preceding article.—EDITORS.

On the Necessity of Caution in the estimation of symptoms in the Last Stages of some Diseases. By Sir HENRY HALFORD, Bart., M.D., F.R.S., Fellow of the Royal College of Physicians, &c.

Prognosis is almost the most commanding attribute of a physician. An opinion on the probable termination of every disease is expected from him. If his prognosis be correct, he commands the respect of his patient; if incorrect, he is very likely to be blamed in an equal degree.

At the latter end of either very long and protracted cases, or of violently acute diseases, a pause in the complaint takes place; the symptoms subside, an apparent approach is made towards health, and the patient's friends, and even his medical attendants, are occasionally misled into believing that the disease has taken a favourable turn, when, in fact the patient has but a few hours to live.

Sir H. Halford has seen this delusive amendment occur in four or five cases of phrenitis, and he relates one of the cases. A young man took cold whilst taking mercury; after three days of incessant delirium, his aberration of mind entirely ceased, and on understanding that he was in a dangerous state, "he dictated most affectionate communications to his parents abroad, recollected some claims upon his purse, set his house in order, and died on the following night." In this case, an unfavorable prognosis was given, because "the apparent amendment was not preceded by sleep, and was not accompanied by a slower pulse, two indispensable conditions, on which only, a notion of real improvement could be justified. But here, was merely a cessation of excitement, occasioned by a diminution of power, and by a mitigated influence of the action of the heart upon the brain."

Similar cases, occurring in inflammation of the bowels, and in hernia, are alluded to. The intermittent nature of cases of abscess in the liver, connected with gall-stones, is also remarked; and the previous inflammation of the liver is mentioned, as sufficient to decide on the nature of the case, without taking into the account the almost apoplectic stupor which marks the inordinate increased action of the second stage, and the deep brown tinge which affects the skin during the paroxysm. Sir H. Halford saw three such cases in 1805, each of which terminated fatally in a state of apoplectic stupefaction. The patients were females, in whom the catamenia had just ceased.

We saw, last spring, a young man die of abscess of the liver, in whom the fever was intermittent, and he lay for two days in a

state of stupor before death ; but his symptoms were rather those of pulmonary consumption than of hepatic abscess, for his cough was incessant, and the quantity of purulent expectoration very great ; the emaciation also was extreme. On dissection, perhaps nineteen-twentieths of the liver were in a state of abscess, whilst the lungs were apparently free from disease.

The same "lightening before death" occurs in hydrothorax. Sir H. H. says that, "if the swelling of the legs disappears without an increased discharge of urine, the patient generally dies very soon, and, most frequently, suddenly." The increased flow of urine should "follow the relief of the dyspnœa."

The secondary fever of small pox is said to form another instance ; and the dying of persons, for no very apparent reason, sometimes long after extensive burns, even when they are nearly healed, is strongly alluded to.

Sir H. H. concludes his useful paper by narrating a case of rather rare disease, viz. *paralysis of the kidney*, which "is, at once, so dangerous and so soon fatal, that every physician should be aware of it."

The patient, a corpulent farmer, aged 55 years, was seized with a rigor, which followed a total suppression of the secretion of the urine. At the end of 48 hours, he laboured under no apparently urgent symptom. Sir H. H., however, ventured to state from experience, that "if we should not succeed in making the kidneys act, the patient would soon become comatose, and would probably die the following night." The event proved that this prognosis was a correct one. It is stated, that all similar cases, seen by Sir H. H., were fat, corpulent men, between 50 and 60 years of age ; and that in three, the perspiration had a strong urinous smell, 24 hours before death. It is said, however, that a very small secretion of urine will afford hopes of amendment.

[The foregoing Selections are made from the London Medical Intelligencer, for February and August 1820.]

INTELLIGENCE.

On the Subject of Hydrocyanic or Prussic Acid. By B. LYND^E OLIVER.

AS there is some reason for supposing, that the Prussic acid is not yet so extensively used in America as a medicine, as its efficacy would warrant, I have thought it might not be wholly useless for me to publish some additional remarks as a supplement to my former letter on this subject.

I have before stated, that beside my relative* whom I had cured by the acid, I had also two patients some years since, that I believe to have been cured by it. On turning to my commonplace book, I find the following notice concerning them.

About the 20th November, 1812, I obtained some new Prussic acid, which proved to be stronger than any I had before used. To a patient, Capt. Yell, who had been affected with bad cough and hectical symptoms for some considerable time, and who had, for some years before, been reduced very low by the same pectoral complaints, so much so, that his recovery had been despaired of, this medicine had by me been administered. It was soon attended by an abatement of all the symptoms, and increase of appetite. He applied to me for a fresh quantity of the medicine; this, in the dose of nine drops, thrice in the day, produced a pain over the eyes, and, on increasing the dose to ten drops, given thrice in the day, it not only excited pain, but some dizzi-

* Mr. Hunt being absent at the time I wrote my former communication, I could not obtain his certificate in season for its insertion; I have very recently received a letter from him, containing the following certificate.

Anderson Township, Hamilton County, State of Ohio, Nov. 16, 1820.

This may certify, that in the autumn of the year 1811, at the request of Dr. Benjamin L. Oliver, and by direction received from him, the subscriber, then an inhabitant of Salem, Massachusetts, and by occupation apothecary and chemical operator, prepared a quantity of prussic acid, and after testing it in the presence of said Oliver, delivered a portion of it for the use of a patient then under said Oliver's care. And that the subscriber delivered the prussic acid, (at the order of said Oliver) for the use of a number of patients previous to the winter of 1812-13, when he delivered it for the use of his brother, William Hunt, of Salem, Massachusetts. And farther, that the prussic acid was not known to the apothecaries of Salem as a medicine, antecedent to Dr. Oliver's order on the subscriber for the preparation of it.

JOHN HUNT.

ness of the head. He was, therefore, requested to take only eight drops at a dose. I saw him, this day, 27th Nov. 1812, when I found that the cough had left him, and his pulse had got down to the natural standard, and his strength was recruiting very fast, and his appetite was excellent; in short, he appeared to be nearly well. Shortly after this he told me that he was well, and soon went a voyage and was lost.

To a patient in the convalescent stage of typhus fever, in the month of Aug. 1813, I gave this acid. It was followed by a speedy restoration of the appetite, and in the course of three or four days he became able to leave his bed, and to go out into the open air. The dose, which he took, was fifteen drops every eight hours. He began with only five drops, and increased the quantity two drops at each time of taking the medicine. This patient laboured under extreme depression of spirits; for he had had two or three persons sick of the same fever in his family beside himself, and to one of them, the disease had proved fatal. He was the only patient to whom the acid had been prescribed, and to him it was administered to relieve his depression of mind. I before had experienced this effect from the acid in some other patients. On conversing with Mr. Boynton, the patient, he remarked, "that he seemed to feel good effects from it every time he took it." He appeared to be much pleased with its effects.

The other hectic patient I have in my former communication alluded to, was Mrs. K—g, wife of William K.

I find the following memorandum concerning her case in my *adversaria*:—I had one patient, in Dec. 1813, whose cough, fever, and debility, had been of some length of time in continuance, and had excited great apprehension of impending *plithisis pulmonalis*, who was, in the course of a fortnight, restored to health by the aid of the prussic acid. The patient had great pain in the back part of the head and neck, while using the acid. This patient took about twenty drops of the medicine twice in the course of the day.

Since the autumn of the year, 1811, to the present time, I have, at various times, been in the habit of prescribing the hydrocyanic acid, and with the various results stated in my former paper. I shall now state some of the effects which I have more recently noted.

In the late epidemic catarrh, or influenza, I have very frequently prescribed it, and have been much pleased with its effects. I have generally found that a dose of ten or fifteen drops, according to the age of the patient, and the strength of the acid, did not fail the first night of relieving the cough and procuring rest; and in a very few days cured the disease.

On, or about the 4th of November last, 1820, Mrs. G. requested my advice for her daughter. She informed me, that she was

seized with a cough so violent, that it produced almost incessant coughing for the whole evening, and greater part of the night, and that it had continued for several days, and had excited an apprehension for the event. I recommended the trial of a julep containing ten drops of prussic acid in a dose. The first dose procured a good night; and the patient assured me, that she took only two more doses, and found herself completely cured.

I have found the acid to afford the most speedy relief in whooping cough, of any remedy that I have ever exhibited. But the initial dose for infants should be very small, not more at first than from half a drop to a drop; and it may be exhibited every six hours, increasing the dose a drop every day, until eight or ten drops be given, or some heaviness be produced, or the desired relief be obtained. Too large a dose is usually manifested by sickness of the stomach, pain in the head, too great disposition to doze, or a degree of imperfection of vision and other nervous affections. The best vehicle is rose-water.*

A case of pleurodyne occurred to me in November, in a subject that I had frequently before bled for the affection, and who was cured with a few doses of the prussic acid.

I have one patient who is taking the prussic acid for a stricture in the œsophagus; he has been but a short time taking it, but he thinks that he already finds some relief in swallowing.

The relief which the hydrocyanic acid has given in catarrhal affections, and febrile diseases, affords much reason for conjecturing that it would prove highly useful in croup. I have had no opportunity of trying it; nor should I, if I had, think it prudent to depend upon it to the exclusion of the approved remedies. But as an auxiliary, it might be very valuable. Since there is reason to suppose, that a fatal termination sometimes happens in this disease from a spasm being excited by the adventitious substance or membrane in the trachea, when the quantity of this adventitious substance is not so accumulated as necessarily to destroy the functions of the lungs. And further, as we find that inflammation of the fauces will sometimes produce a disposition in the part to spasmodic action, and also that inflammation of various other internal parts is followed with the like action, we may be allowed to conjecture that in certain irritable habits, the bare inflammation of the parts may be sufficient to give rise to a fatal spasm of the glottis. From this view of the subject, I should recommend the trial of it.† But to be useful it ought to be given freely, and, at short intervals, watching its effects. In

* The prussic acid employed is much weaker than Granville's.

† Since, from the experiments of Dr. Magendie, the acid is found to destroy the disposition of the muscular fibre to contraction.

this case, if in any, when the usual remedies have proved inadequate, should boldness be used in the dose; since, without relief, the march to the grave is certain. *Satius est enim anceps auxilium experiri, quam nullum.*—*Cel.*

Salem, Mass. Dec. 1820.

Cases of Malignant Fever.

[Communicated.]

THE whole month of October and beginning of November, in which we usually have the greatest proportion of fair and dry weather, was, this season, cold and wet. Influenza was very general, and several cases of fever appeared, some of which had a very malignant aspect. One family suffered severely. Seven were affected nearly at the same time; three died.

Sketch of the Cases.—Mrs. E. aged 41, fair skin, dark hair, very corpulent, exposed on the evening of October 6th to the atmosphere of a crowded building for some hours. Passed from thence to the air of a very damp evening, at a late hour; attacked the same night; symptoms aggravated by exposure to cold and moisture the following morning.

Symptoms.—Severe headach, nausea; and morning vomiting, foul taste and breath; tongue thickly coated; languor, heat, thirst, loathing of food; fecal discharges painful, dark, fetid; restlessness, want of sleep; fretfulness, depression; morning remissions; evening exacerbations, weak rapid pulse.

She began to mend about the 20th, and gradually became pretty well; but the digestive organs have never been in good order. She has had two slight attacks of fever between the 20th October and 7th December, when she was attacked again as severely as at first. This day (Dec. 8th) she has symptoms of severe and dangerous fever, of the typhus and bilious form.

Mr. E., aged 46, dark hair, irritable habit, corpulent, exposed to the same causes with his wife. Oct. 6th, felt no ill effects; exposed again, in the same way, Oct. 17th. Had an *ague-turn* the same night; access of fever from this date well-marked, but was considered as influenza till the attack, which was very violent, and took place on the evening of Oct. 24th.

Symptoms.—Head hot and sweating; extremities cool; skin less sensible than usual; torpor, tongue furred, but not remarkably thick; pulse rapid; weak in one arm, fuller in the other; alvine discharges not painful, and of a natural smell and colour; speech, like that of a person slightly intoxicated; tongue very insensible to acrid matter, as Cayenne pepper; intellect occasionally disturbed, but answered questions rationally; no nausea, vomiting or pain; acknowledged no complaint but weakness;

drowsiness gradually increased to deep coma, in which state he died on the morning of the 30th October, being the 6th day from the attack and 13th from the commencement of the access.

Dissection three hours after death.—Enormous congestion of blood in the vessels of the head, the vena cava and right side of the heart; effusion in the ventricles of the brain and in the left cavity of the pleura, and more than the usual quantity of serum in the pericardium; blistered appearance of the tunica arachnoides, with small patches of coagulated lymph. A white spot, or patch, of lymph on the heart, did not seem to be recent or connected with the disease; the lungs sound, and the stomach and bowels also, contrary to what is usual in deaths from malignant typhus, in which we commonly find traces of inflammation of the mucus membrane, of the stomach, and duodenum and upper portion of the intestines.

Ed. E. male, aged 7, dark hair and complexion—attacked on the 16th of October, after being thoroughly wet with rain.

Symptoms.—Seems to be almost continually in a heavy sleep; does not complain when roused, but acknowledges some headach; skin rather above the natural temperature, dry; tongue pretty thickly furred; neither appetite, thirst, nausea, nor vomiting; bowels exceedingly torpid; slightly moved by very large purgative doses; evacuations solid, dark, lumpy; pulse rapid, not very weak; rational when waked.

About the 29th of October, a fortnight from the attack, he began to be more wakeful, and very gradually amended from that time; has had no relapse, and is now (December 8th) well enough to go out.

M. E. female, aged 11; dark hair, pale, thin, irritable habit; attacked on the morning of the 22d.; no exposure remembered to cold or wet.

Symptoms.—Muttering and slight delirium, gradually increasing; she was rational when questioned, but wandered whenever she was left to herself. (This delirium vanished entirely, with most of the other bad symptoms, on the morning of the 26th, after evacuating about two quarts of green and offensive fluid from the bowels; a day or two after, they returned as at first.) Watchfulness, wild-maniac stare; flushed cheeks; dry hot skin; quick feeble pulse; thickly furred tongue, sometimes rather dry; thirst; no nausea or vomiting after the first day or two. She died delirious, in the night of October 31st; before death she had several large bloody and fetid discharges from the bowels; body not examined.

These two last cases afford examples of the influence of constitution upon the forms of disease. In all previous indispositions from their birth, the former was always inclined to be

heavy, stupid, and sleepy; the latter watchful, restless, and more or less delirious.

El. E. female, aged 17, brown hair, fair skin; quiet, equable, amiable, and placid disposition; had always enjoyed excellent health; exposed in the same manner as her father, on the evening of 17th; attacked on the evening of the 19th. The first symptoms were precisely similar to those of her mother, and she was treated in the same way, but not with the same effect. Her stomach grew more and more irritable; the headach ceased after a few days to be troublesome, but she complained of universal numbness. The alvine evacuations were green, painful, and fetid; there was pain in the stomach, and thickly furred tongue; the pulse quick and weak; skin, hot and dry at first, afterwards cold and dry at the extremities; watchfulness, and towards the last something of the maniac stare; after midnight of the 25th, the commencement of the 7th day of fever, there appeared symptoms of crisis, but they were fallacious; as the day advanced, she began to have frequent green and pasty discharges from the bowels; in the afternoon she became delirious, and died about ten in the evening of the 26th October, seven days from the attack; no examination.

J. E. aged 14, dark hair, rather thin and irritable habit, fair skin; exposed to cold and moisture on the 23d, attacked the same afternoon.

Symptoms.—Headach, cold and heat alternating; hot and dry skin, or clammy sweats; ghastly countenance; dark circle under eyes—(this was more or less present in all, but more remarkable in this case; it was nearly as much so in the two females)—strong tendency to delirium alternating with coma; alvine discharges, after the first day or two, natural in smell and colour; furred tongue; feeling of soreness in the fauces—(this was also observed in the last case of El. E.)—occasional dryness and redness of part of the tongue; occasional nausea and vomiting, but easily checked; restlessness, watchfulness; great thirst, and irritability; pulse full, quick, easily compressed.

About the 4th or 5th of November, he began to mend, rather less than a fortnight from the attack; convalesced gradually, and became well enough to go below stairs on the 22d of November; relapsed with symptoms of cerebral effusion, which, after five or six days, were relieved by a large discharge of urine, depositing a flocculent sediment; he is now (December 8th) able to sit up most of the day, and has every appearance of doing well; the pupils are still a little dilated.

W. E. aged 9, light hair, fair skin; exposed to cold and moisture on the 23d., as the last, and attacked at the same time.

Symptoms.—Very mild, compared to the others; no disposition to coma; sometimes a little wandering; face hot; skin hot; countenance never ghastly; slight headach; furred tongue and quick pulse; always sensible of what was doing about him; no pain, nausea, or vomiting; alvine discharges, after the first, natural; he began to recover at the same time with the last, but has had no relapse, and is now (December 8th) quite well, though a little pale and thin.

Each of these three boys, soon after they began to recover, had a slight hacking cough, which came without evident cause, and went off without medicine.

The only remaining child, an infant of about eighteen months, was ill about the same time with the others. The symptoms were stupor, want of appetite, hot skin and quick pulse; a disposition to lay without motion or change of place; the bowels were costive, but not otherwise much disordered; she was removed to the country on the 29th of October, where she gradually regained her appetite, which at last became voracious, but still inclined to lie still on a pillow; after some days she returned to town, gradually recovered activity and playfulness, and is now quite well; query, whether she was affected with the fever? She has been since her birth frequently ill from dentition and other causes, but has always, on such occasions, been restless and fretful.

Our limits will not allow any remarks upon the treatment, which was various, except that ice to the head seemed at least equal, if not superior to blisters; and as it has the advantage of being more easily managed, where the application is required to be often repeated, and is not followed by troublesome sores, it may perhaps be considered the better of the two.

The pulse in the three boys intermitted considerably towards the last, and even after recovery had commenced; this has been frequently observed in other instances. In all the cases, there was some inequality between the pulses of the two arms; returning equality accompanied recovery; it was usually 120 during the whole course of the disorder, becoming, of course, rather more rapid towards the close of the fatal cases; in the favourable ones, the diminution was very gradual.

The feelings of the patients were very fallacious; they always answered to the questions of the physicians or attendants, that they felt *better*.

Though the skin in Mr. E.'s case was extremely insensible to heat, or other applications, which usually produce pain; yet blisters rose well to the last.

In favour of the opinion, that the disorder in these cases was propagated by contagion, it may be observed, that every one of

them had slept with one or more of the others, while actually labouring under fever. That J. and W. who usually slept together, went to sleep with sick ones on the same night, and were attacked both on the same day; that El. was not exposed till after Mr. E., nor was attacked till after him; that M. and W. were exposed at the same time to the contagion from Ed.; but M. was afterwards exposed to that from another and more severe case; that is, to the contagion from Ed. and El., at the same time, as all three slept together; M., therefore, was attacked about forty hours sooner than W.; that, allowing for the difficulty of determining the first symptoms of fever, there appears to be some similarity in the times, during which the contagion may have been supposed to lie dormant; lastly, that a gentleman, who slept with Mr. E. on the night of the 24th and 25th, thought his tongue furred, and some febrile symptoms present a few days after; these, whether real or imaginary, disappeared after a smart cathartic.

Against this opinion it may be urged, that no domestic, nurse, visitor, or attendant, has been attacked with any thing similar; that there were, at the same time, similar cases in different parts of the town; that the weather had been such as is considered favourable for the production of typhoid forms of fever; that it is acknowledged that all except M. were exposed to what are the allowed exciting causes of fever; that it must have, in some measure, depended on something common to the family, such as peculiarity of constitution, or peculiar exposure; for the food and local situation was common to their two domestics and the mother of Mrs. E., neither of which have had any febrile symptoms; that the gentleman, who slept with Mr. E., would hardly have escaped so lightly on the supposition of contagion; and that, on this supposition, two at least of the cases (one of which was fatal) must have derived the disease from Mrs. E., who, if she had the same fever, had it in a form very much milder; though this last argument, from the comparative mildness or severity of cases, will not probably be allowed much weight.

NOTE.—Mrs. E died on the morning of the 16th of December; the symptoms were similar to those detailed in the case of El. E., but there was more delirium and less nausea; a difference depending, probably, upon difference of treatment. Catamenia regular on the 11th of December, 4th day of fever. A few hours before death, there occurred one of those instances of mitigation of disease and apparent favourable crisis which are spoken of in the 94th page of this number. We alluded to another instance in the case of El. E.; but in Mrs. E.'s case, the change from the agonies of death to speech, ease, and reason, was so remarkable as to strike the attendants with horror; one of them observed, that she should not have been more shocked had she been addressed by a corpse.

Works in the Press.

AMERICAN MEDICAL BOTANY.—The fifth and sixth volumes of *Dr. Bigelow's Medical Botany*, constituting the last volume of that work, will be published at the same time in the course of the present month. No. 5 contains coloured engravings and descriptions of the following plants, viz.: *Gillenia trifoliata*, *Rhus radicans*, *Myrica cerifera*, *Juniperus communis*, *Juniperus Virginiana*, *Menyanthes trifoliata*, *Ranunculus bulbosus*, *Illicium Floridanum*, *Aristolochia serpentaria*, and *Aletris farinosa*. No. 6 contains *Rhododendron maximum*, *Euphorbia ipecacuanha*, *Euphorbia corollata*, *Polygala rubella*, *Prinos verticillatus*, *Nymphaea odorata*, *Sabhatia angularis*, *Erythronium Americanum*, *Xanthoxylum fraxineum*, and *Humulus lupulus*.

Shortly will be published a second edition of the four first volumes of *Boyer's Surgery*, with a translation of the fifth and sixth volumes. By ALEXANDER H. STAYERS, M.D. one of the Surgeons of the New York Hospital, &c. with notes, and an Appendix by the translator.

Cummings & Hilliard have in press, *Dissertations on Hæmoptysis or the Spitting of Blood, and on Suppuration*, which obtained the Boylston Premiums for the years 1818 and 1820. By John Ware, M.D.

Wells & Lilly are printing for *Charles Ewer*, "The Pharmacopœia of the United States of America. 1820. By the Authority of the Medical Societies and Colleges."

Works preparing for the Press.

An Introduction to the Principles and Practice of Midwifery. By W. CHANNING, M.D. Professor of Midwifery and Medical Jurisprudence in Harvard University.

By the same, a Translation of M. H. CHAUSSIER's work on Counter-Poisons; with additions and notes, by the Translator.

NOTICE.

Reviews of the following works are in preparation for this Journal, and will appear in the following number, viz.

The Sailor's Physician, exhibiting the symptoms, causes, and treatment of diseases and hurts, incident to seamen and passengers in merchant vessels, &c. By Usher Parsons, M.D. Surgeon in the United States Navy. Cambridge, Hilliard and Metcalf. 8vo. pp. 216—1820.

De l'auscultation mediate, ou traité du diagnostic des maladies des poumons et du cœur, fondé principalement sur ce nouveau moyen d'exploration. Par R. T. H. Laennec, D.M.P., Medecin de l'Hôpital Necker, &c. Tom. II. A Paris, 1819.

Transactions of the Medico-Chirurgical Society of London. Vol. IX.

A communication on Laborious Labour will appear in the next number.

An Essay on the Moral Causes of Epidemics. By Chandler Robbins, M.D. has been received.

Bill of Mortality for the town of Hanover, Massachusetts, from 1792 to 1819 inclusive. By William Stockbridge, Esq.

"Cases of Sciatica," will appear in the next number.

Correspondents are requested to send their communications, *post paid*, to the publishers, and at least six weeks before the time of publication of the number, in which they may appear.

The New-England Journal

OF

MEDICINE AND SURGERY.

Vol. X.

APRIL, 1821.

No. II.

A Case of Abortion, followed by profuse hæmorrhage, and suddenly terminating fatally. By JOHN BROOKS, M. D.

[Communicated for the New-England Journal of Medicine and Surgery.]

ON the 23d day of February, Mrs. L. E. aged 42 years, after considerable fatigue from walking, and laborious domestic exertions, suffered suddenly an abortion. She had advanced four months in utero-gestation. She had no premonition of the occurrence, the fetus abruptly making its escape *ab utero* while she was standing at the fire, without its original investments, without the placenta, and unaccompanied with hæmorrhage. The funis was divided at or near the umbilicus. Profuse hæmorrhage, however, soon followed, and in the course of an hour or two, she became weak and faint. But under the absurd idea, too often on similar occasions indulged by females, of making herself the only confident of her accident, she continued her attention to domestic concerns until necessity compelled her to disclose the secret. After the lapse of three hours, and the loss of a large quantity of blood, she was obliged to confine herself to the bed. But the hæmorrhage continued, and after six hours had elapsed she consented to send for medical aid. Mr. Weed, a young gentleman then attending my practice, but now a licentiate of the Massachusetts Medical Society, visited her, and found her much exhausted in strength, pulse quick and weak, flooding considerable, and frequently suffering syncope. As she complained of no pain, as the extremities and the surface generally were cold, and the hæmorrhage seemed of the passive kind, he resorted to external means of exciting the ac-

tion of the sanguiferous vessels of the extremities, and to the use of mild cordials, a little light nourishment, and small doses of the tinct. opii, to rouse and invigorate the action of the stomach; prescribing intermediately a few small nauseating doses of the pulvis ipecacuanhæ, and cold spirituous and acetous applications to the hypogastric region. Persevering assiduously in this course for two or three hours, he had the satisfaction to find an abatement of the flooding, less frequent recurrence of syncope, and a restoration of warmth on the surface, and in the extremities. At ten o'clock, which was thirteen hours after seizure, he left her. She passed a tolerably quiet night, and I visited her on the 24th in the morning. Her pulse though weak was very little accelerated. The hæmorrhage was inconsiderable in quantity, and of a serous complexion. Her principal complaints were a sense of fulness and tenderness of the abdomen. From a careful examination of the case, I could not be satisfied that the placenta had been voided. It was the opinion of some of the female attendants that this had been the case. But such evidence is to be admitted with caution. After due deliberation, I prescribed a laxative of senna and manna, light nutriment, as the stomach would bear, and an anodyne draught at night. The laxative produced two dejections, and the expulsion of the placenta with its usual appendages. She passed the night following comfortably, and the next day (25th) was in good spirits, had no hæmorrhage—good pulse—and solicited and relished food. Rest and silence had been enjoined from the first of her receiving medical advice. From this time she continued gradually to amend, daily acquiring a better appetite and more strength, until nine o'clock P. M. on the 2d of March, eight days from her seizure, when suddenly exclaiming that she felt "dreadful distress" at her stomach, she almost instantly expired. Upon investigating the occurrences of the preceding day, I found, that she had taken with sufficient appetite the nourishment that had been allowed her, such as gruel, chicken broth, &c. and occasionally a little port wine and water—that she had been remarkably cheerful, had seen much company and indulged in conversing freely with her friends—had risen and sat up repeatedly in her bed, and the instant before she complained of the distress at her stomach, had been standing erect until, with the aid of her nurse, she had adjusted her habiliments for the night. In the act of lying down the catastrophe already mentioned occurred.

A consciousness that I had duly appreciated the hazard attending this case, and guarded as far as was in my power against an unfavourable issue, led me to ascribe the sudden and unexpected demise of this patient, to her exertions in the course of the

day antecedent to her death, and more especially to the erect posture she had assumed, and maintained for the space of perhaps two minutes : (The opinion of her nurse was that it did not exceed one) in adjusting her dress, &c. Other causes, however, such as mortification of the bowels, of the uterus, &c. were assigned. Although from a review of the case it was impossible for me to recollect a single indication to warrant such a conclusion, I felt no small degree of solicitude to refer a solution of the question to actual inspection. This mode of deciding questions of this kind is not only the most satisfactory as it relates to a particular fact, but may be highly useful to us in forming a sound pathology in future analogous cases. Accordingly having obtained leave for that purpose, I inspected the body on the 5th day of March. In the abdomen every viscus appeared perfectly sound. In the pelvis the uterus was not of a larger size than might have been expected from its recent state of impregnation. Slight traces of inflammation were observable upon the inner surface of the colum uteri, referable to its late distention, and perhaps to an excitement connected with abortion. The parietes uteri were from $\frac{7}{8}$ to $\frac{9}{8}$ of an inch in thickness. The uterine vessels contained but little blood. The place of the late attachment of the placenta was distinctly marked on the posterior part of the uterus, and a little below the fundus. The blood-vessels of that portion of the uterus were very conspicuous, but free from disease. Several large hydatids of the size of common filberts had been formed in the peritonæal coat of the fallopian tubes at the extremities of the fimbriæ.

Having satisfactorily ascertained that the immediate cause of death could not be referred to the uterus nor to the intestines, I opened the thorax and found the lungs sound, and the cavity containing a considerable quantity of blood. A greater change was observable in the appearance of the lungs than in any other viscus ; which I presume occurred *in articulo mortis*, and partly afterwards.

The heart and the pericardium were perfectly free from morbid appearance. The latter, although the inspection took place sixty-three hours after death, contained no fluid. The heart was remarkably small, and flaccid. The right ventricle was perfectly empty. In the left was about a common tea-spoonful of blood, black and fluid. Otherwise, the ventricles, the auricles, the aorta, the pulmonary artery, the right sinus of the heart and the venæ cavæ, were in a state of collapse. Here the examination terminated.

The history of this case and the appearances on dissection demonstrate that, although the vital and natural functions may be

sustained under a state of extreme inanition, yet that the exercise of the animal powers in such a condition of the sanguiferous system, although to a moderate extent, may prove destructive to life. It likewise teaches the importance of supporting and cherishing those functions of the system upon which digestion and sanguification depend; and thus of restoring to the inane blood-vessels that degree of fulness and pressure so necessary for health and muscular exertion.

The actual loss of blood in uterine hæmorrhage is seldom to be accurately ascertained. Precision in this respect is the less necessary, inasmuch as the danger is not always in proportion to the absolute loss. In most cases we search in vain for the foundation of that variety of phenomena, which different subjects, under the influence of similar agents, exhibit. If idiosyncrasy does not solve the mystery, it must at least for the present be admitted as the general boundary of physiological attainment, though not of research. Difference of age however, is an obvious foundation for diversity of effects. In young subjects the sanguiferous system accommodates itself with wonderful facility to a very reduced volume of blood. The most dreadful cases of flooding from abortion, which have fallen under my notice, have occurred in females above forty years of age. But the fatal termination of the case of Mrs. E. is to be ascribed, I apprehend, but remotely to hæmorrhage, the inanition of the blood-vessels being less at this time than at the expulsion of the placenta and for several days afterward. The abortion, it may be remembered, happened on the 23d of February—the placenta was expelled about thirty hours afterward—the hæmorrhage from that time ceased—not a single inauspicious indication appeared—and, under the use of tonic remedies, and a restorative regimen, she was constantly regaining her strength until the instant prior to her death. Had the loss of blood been so great as to destroy life, the catastrophe must have happened at an earlier period; when the system was suffering under the effects of sudden abstraction, before the sanguiferous vessels could have adjusted their capacities and their action, to the reduced volume of their contents.

From the history of this case, I think it may be fairly concluded, that had the subject of it conformed to the injunctions that had been laid upon her, she might have recovered her usual health. A recumbent or supine posture had been strictly enjoined. But an unfortunate solicitude to resume her domestic labours, urged her to those muscular exertions which the vital powers were incompetent to sustain.

Profuse hæmorrhage is usually followed with loss of muscular strength, and a suspension or diminution of the natural functions,

digestion, secretion, absorption, &c. These consequences necessarily result from the abstraction of blood, not only as a stimulant but as the pabulous material from which the various secretory organs elaborate their appropriate substances, whether for nutrition or expulsion. But the vital functions may be continued under extreme inanition; and in no cases do we more sensibly discern the salutary effects produced by rest and time. The former is necessary to prevent fatal irregularity or utter exhaustion; and the latter to allow that condition of healthy action to return, to which the human system when freed from the operation of morbid causes is ever disposed.

To obviate the hazard incident to inanition from hæmorrhage, *rest in a supine posture*, is pre-eminently important. The use of the loco-motive organs should be particularly limited, if not altogether forbidden; inasmuch as muscular action may not only occasion an insupportable expenditure of sensorial power, but as it may interrupt that regular, and equable current of reflux blood to the heart, upon which the repetition of its pulsations in such an exhausted state of the system depends. When in such cases the change of posture from one side to the other, or the act of raising the head from the pillow, shall induce syncope, it is time for us to be peremptory in enjoining rest in a supine posture. In some extreme cases I have seen that effect produced to an alarming degree from the utterance of a few words, and even from fruitless attempts to articulate.

From a review of the case I have now stated, we may conclude, that death was not the immediate consequence of hæmorrhage; but that it ensued from a total abstraction of the stimulus of the blood from the heart, in consequence of muscular exertion and an erect posture. The facts that presented themselves upon dissection I conceive authorise this conclusion. Contrary to the usual appearances in dead bodies no blood was found either in the right ventricle, in the right auricle, or in any of the large vessels which serve to convey the blood to those cavities, and which in every instance that has fallen under my inspection, have been turgid with blood.

But will the erect posture satisfactorily account for the absence of blood in the cavities and vessels just mentioned? Great as have been the improvements in physiology since the days of Boerhaave and Haller, the laws by which human organization even in a state of health is governed, are in many respects extremely obscure. But those laws which guide the organic functions in disease are still less intelligible. In the erect posture in a state of inanition, when the balance between fulness and distension on the one hand, and the elasticity of the blood vessels

on the other is destroyed, by what mechanism or force is the blood in the vena cava inferior, its great subdivisions and innumerable ramifications to be elevated to the heart? In such a condition of the system, when by the collapse of the veins, the bases of the valves have been deranged, can it be supposed that those valves are capable of sustaining the weight of the superincumbent blood, and preventing it from finding its level at a remote distance from the fountain of the circulations? Under such a condition of the system, after it has been sapped by depletion, we must cease to view it as under the control of the ordinary principles of living organization. The body ceases to be that orderly and well balanced machine, whose several parts, by a most happy adaptation, are subservient to each other. Such is the mutual relation between the heart and the blood, that as the latter must stagnate when vascular action ceases, so if the stimulus of this fluid be withdrawn the action of the heart must terminate. Great hæmorrhage must be followed with corresponding debility; and when depletion is suffered to an extreme degree, the diminished elasticity of the veins becomes insufficient in an erect posture, to overcome the gravity of the remaining blood—the principles of life are subverted, and syncope or death ensues.

As I took occasion before to observe, the actual loss of blood in uterine hæmorrhage is seldom to be ascertained. But as we often witness the continuance of life after most profuse abstraction, we are led to conclude, that, from the peculiar and exquisite sensibility of the heart, the primum mobile of the circulations, the stimulus of a very reduced quantity of blood is competent, under circumstances duly regulated by professional judgment, to the continuance of the actions of life.

In the case of Mrs. E. I regretted at the moment of inspection the limited examination, some urgent professional calls imposed upon me. But that regret was heightened by subsequent reflection on the singular circumstances of the case; particularly, the absence of blood from those vessels and cavities so generally found gorged with that fluid after death. Farther examination, I apprehended, might have disclosed, in some measure at least, the recesses which the blood, liberated from the ordinary influence of the living powers, and yielding to the impulse of physical agency, occupied at death; or led us to a more satisfactory estimate of the power of the blood in maintaining vital action. No fact that can shed even a feeble ray of light on the laws of the animal economy, can be justly viewed as unimportant. And if the publication of the present case should be deemed of any utility in a physiological or practical point of view, I shall feel myself abundantly compensated for the communication.

[To the Editors of the New-England Journal of Medicine and Surgery.]

I BEG leave to offer for publication in your journal the case of a highly intelligent and respectable gentleman, drawn up by himself. It presents one of the best histories I have ever met with of the disease called "SCIATICA;" and shows the inefficacy of remedies in some instances of the disease. In order to prove that medicine is not always so unsuccessful, I have added a short statement of a case which came within my knowledge some time after.

J. C. WARREN.

Brinley-Place, Roxbury, Sept. 22, 1817.

DEAR SIR,

I promised to give you a history of my anomalous case, and an account of the various prescriptions, which have been recommended to effect a cure. Having, during a personal interview, related to you most of the facts connected with the complaint, I hope the following brief statement will contain every thing which you may deem of consequence to possess.

On the morning of the first day of July, 1816, while on a visit at ———, it being very warm, I was so imprudent as to put on loose silk pantaloons, silk stockings and thin shoes, in lieu of woollen small clothes, and long boots, which I had been in the habit of wearing for six or eight years, except an occasional change to thin under clothes, during excessively warm days, while within doors.

After dinner I left ———, in an open phaeton, for ———, on the ——— river, distant about eighteen miles, in an easterly direction.

The weather had changed since the forenoon, and a cold damp wind blew from the east. I did not reach ——— until between eight and nine o'clock in the evening, when I was completely chilled through; not having changed my thin dress or put on a great coat. I took some warm drink and went to bed.

The next morning when I awoke I had a pain in my loins, thighs and legs, which I expected would be temporary and pass off in a few days, by merely bathing it with brandy and wearing flannel.

When I reached home, some fifteen days after, finding no change for the better, I bathed my back for a number of nights with warm brandy in which wormwood had been simmered.

In the course of two or three weeks the pain was less in my back, but I suffered more pain in my thighs and the calves of my legs, particularly the left; soon after, however, the pain was

concentrated about the centre of the outside of the *left* thigh, with a numb sensation in the calf of the leg, the bottom and outside of my foot, accompanied occasionally by shooting pains through the hip to the spine and down the leg. These pains were brought on by walking, or standing, but invariably went off after half an hour's repose, in a recumbent posture on a bed or sofa. If I walked, rode on horseback, or stood up for only a short time, a violent pain, like the *tooth-ack*, would seize me in the thigh, embracing a spot not larger than a half dollar, and so excruciating that I was obliged to lie down, which always removed the pain within from ten to forty minutes.

There was no inflammation, swelling, contraction, rigidity or soreness in the thigh or has there ever been.

I consulted Dr. ———, who at that time considered my complaint as rheumatic, and he gave me some purgative pills, which I took at various times for ten days. They operated very powerfully, but did not give any relief. He then ordered me to take a liquid preparation, the principal ingredient of which was gum guaiacum, three times a day, which was done for six or eight days.

Other purgative pills were afterwards used, but without any beneficial effect.

A friend advised me to try "*Dr. Dean's Rheumatic Pills*," which operated well, but did not reach the disease. They were taken after this at two different times, but I was left in as much pain as usual.

Dr. ——— recommended the use of the warm bath at the temperature of 100°, which was adopted for eight or ten nights, and the effect was rather deleterious than salutary.

"*Hewes' Ointment*" was applied every night for two or three weeks. It was rubbed over my hip, thigh, leg, and foot, for half an hour each time.

Volatile liniment was recommended and used for a great number of nights just before I went to bed, and the parts affected wrapped up in flannel.

I tried the application of horse-radish leaves to the bottom of my foot.

On the 22d of August, 1816, I commenced taking from nine to twelve drops of spirits of turpentine, on loaf sugar, three times a day for four or five days, when I desisted from using it, as it had a most powerful diuretic effect, causing strangury; blood was voided in considerable quantities every time I passed my urine,—which was at least twenty times a day. I was under the operation of the spirits of turpentine while on a journey

to and at Hanover, in New-Hampshire, where I was compelled to seek medical assistance from Dr. ——— to check its effects.

Early in September, 1816, I sent for Dr. ———, Hospital Surgeon in the U. S. Army, who recommended a *blister*.—One, ten by eight inches, was applied to the thigh, which was powerful in its effect, and the wound occasioned, was kept open for eight days by dressing it with *savin ointment*.

The numb sensation in the bottom of the foot was removed by this application, but still it remained on the outside of the foot, accompanied with a feverish and prickly sensation, which still continues, when I am in pain.

After a few weeks, it was recommended that I should take pulverized *Peruvian bark*, steeped in *brandy*. I took a wine glass full three times a day, for ten or twelve days.

Dr. ——— advised to the trial of *Jennings's spirit vapour bath*, which I used every night for two weeks, making the temperature of the bed 162°, in which I continued thirty minutes each evening.

Dr. ———, of Boston, advised me to try the *black liniment*, composed of sulphuric acid, spirits of turpentine, and sweet oil. This was applied and rubbed in by the fire for a number of nights, until the whole under part and outside of my thigh were completely blistered.

Dr. ——— was consulted, and recommended that I should rub the thigh and leg with *camphorated oil* before the fire. This was done a quarter of an hour each night for a fortnight.

I tried *electricity* for ten or twelve nights, passing shocks through the thigh in every direction, and then being insulated drew off the sparks, or in other words produced electrical friction.

A *blister* was again applied, nine by ten inches.

I drank a quarter of a pound of *sulphur in a quart of gin*, taking a wine glass full three times a day.

Camphorated spirit of turpentine was rubbed on the thigh and leg, for seven or eight nights, before the fire.

Crude bark, in brandy, was taken at the rate of two ounces a day, for three or four days, and then increased to a quarter of a pound per day; for two days more.

Doctors ——— were at last inclined to the belief that it was a nervous affection, bordering on the *tic doloieux* and prescribed *Cicuta pills*, which I took for a week, beginning with a grain a day, and increased the quantity to nine grains a day.—They had a powerful effect upon me in the usual manner, but did not tend to remove the pain.

The flesh brush was used for some time.

A quarter of a pound of *pulverized brimstone* was quilted into doubled flannel and worn round my back for six or eight days.

Finding no relief from any of the remedies which had been tried, Doctors ——— were of opinion that the *cautery* might effect a cure, but my friends objected to the application at that time, as I had been confined for eight weeks to my room, and constantly making experiments without effect, therefore it was concluded to let time and patience have a fair chance.

The latter part of March, 1817, I went to Philadelphia, and consulted Dr. ———, he recommended a *flannel bandage*, which he applied, from the toes to the hip. I was enabled to walk farther, and with less pain, when I had the bandage on, but as it was difficult to keep it tight above the knee, he directed me to have a pair of *Russia sheeting drawers* made, to lace tight on the outside of the thigh, and wear the bandage from the foot to just above the knee. I wore the bandage and drawers until the first of June, and was enabled to walk about my house for an hour or two in the morning, without pain, but the application did not appear to have removed the cause of the complaint, as when I remained long on my feet, or they were left off, the pain returned by standing or walking as usual.

The support which the bandage gave to the muscles enabled me to exercise more than I had done before; but even with the bandage on, if I walked or stood on the leg for any considerable time, the pain returned.

I wrote Dr. ——— early in July and observed, that although the bandage had given me great relief, still a radical cure was not made, and I had not discovered, for the last three or four weeks, any sensible change for the better.

He advised me, by letter, to repose on a bed, in a recumbent posture, for at least three weeks, with the bandage and laced drawers on. It was so tedious, and at that time so inconvenient an experiment, that I did not follow the advice.

During the month of July I left off the bandage and drawers, which I have not worn since.

I recently tried *Galvanism*, but could not discover any beneficial effect from it, although it was applied every night and morning for five days, half an hour each time, from a trough of fifty plates, four inches square.

I have never had any pain while in bed or reposing on a couch, and have at all times been able to ride in a carriage with perfect ease, by laying my foot up on the front seat. In this manner I have, during the last twelve months, ridden many hundred miles, and never had the least pain while in the carriage.

Until last July I could not get relief, after walking or standing, unless I lay down, or put my leg on a sofa, chair, or rest of some kind ; but since July I have no pain when seated, and but seldom am obliged to lie down or put my leg in a horizontal position, unless when I have exercised, more than was prudent ; mere sitting down being now sufficient to give me ease.

Some days I can be on my legs half an hour without pain, but generally not longer than from ten to fifteen minutes. I can walk or stand longer when I first rise in the morning than during any other part of the day.

From the time I took the cold which produced the pain, I have enjoyed the most perfect health, with the exception of an attack of a fever, and stricture over my breast, for eight or ten days during the first weeks of August, occasioned by exposure in a damp evening.

My appetite is perfect and my strength undiminished, even in the left thigh and leg.

Occasionally, when I move suddenly, a momentary sensation, like the prick of a sharp needle, is felt near the seat of pain in the thigh. My left side near the hip, the thigh, leg, and foot, are more sensible to cold than any other part of my body, or limbs.

From all the prescriptions which have been applied, I have not found the slightest relief, except from the *first blister* and the *bandage*.

Sometimes, when I am in pain, I have sharp twinges pass through the thigh into the groin ; these are scintillations of pain, very like electrical shocks, and when a number have rapidly followed each other, there is a pain left in the groin for a few minutes. These affections have not taken place until since April or May, but for the last month or six weeks I am rarely in pain without such flashes or twinges through the groin.

I have the honour to be, Sir,

Your obedient servant,

H. A. S. DEARBORN.

On this statement being made, I returned my opinion to Gen. Dearborn ; but before the practice recommended was entered upon, the pains began to subside, and the patient had the happiness gradually to recover a state of perfect health.

CASE II.

Mr. E—— master of vessel, consulted me in June 1819, for a lameness in the left thigh, accompanied with acute pain. He stated that about five or six weeks before, he had been much

exposed at sea and remained long with wet clothes upon him, and that soon after he was seized with pains in the back which seemed to fall into the upper and posterior part of the thigh and remain stationary there, though the whole limb was often affected with shooting pains, followed with numbness of the part. His pulse was accelerated and tongue furred.

An emetic was ordered him first, and then he was put on a course of calomel and hemlock; of the former he took three grains a day and of the latter from six to twenty, and thus continued until his mouth became sore; after which the quantity of calomel was lessened in such manner as to keep the mouth moderately sore for three or four weeks. During this time various fomentations and liniments and vesications were applied to the part most affected with pain.

After he had been under my care six or seven weeks the pain lessened in the thigh and affected the lower part of the knee and the outside of the foot principally. He was now entirely unable to walk, and rarely got any sleep without the aid of large doses of opium. I ought to add that from the first to the last a regular course of purgatives was pursued without intermission.

Leeches were applied in great numbers to the knee and outside of the foot with some degree of benefit. I now urged the patient to submit to an extensive application of caustic at the knee and foot; but as he obstinately resisted this, blisters were substituted and they were dressed with some narcotic substance, as an ointment made with opium, hyoscyamus or stramonium. He felt most speedy relief from pain by a warm poultice containing some of these substances melted in it, and applied to the blistered part. As the calomel and hemlock were laid aside, he now took belladonna in extract to the amount of three or four grains a day. Its effects were unpleasant, so that it was soon laid aside and he had, instead of it, the extract of stramonium, in doses, increased, from three to nine grains a day; when it produced dizziness, headache, dilated pupils, nausea and loss of appetite; and all without in the least lessening the pain; for although the patient sometimes was indulged with a mitigation of suffering for two or three days, his pains were sure to return, after this interval with as much severity as ever.—After this, arsenic had its trial, tartrate of antimony in nauseating doses, and peruvian bark in substance, and camphor.

More than ten weeks had elapsed without any change for the better, and both the patient and myself began to despair. As I had always great hopes of success from caustic applications,

they were urged again and the patient at last agreed to them. Caustic potass in powder was applied below the knee on a space three inches long and one wide, where the peroneal nerve winds round the head of the fibula, exactly at the part where blistering was recommended by Celsus. Another application was made to the outside of the foot below and forward of the malleolus externus. The superior ulcer, formed by the caustic below the knee, was dressed with ointment made with the extract of hyoscyamus: and once in five days the edges of the ulcer were covered with caustic powder. That on the foot being over the nerve, where the pain had now become most acute, would not, from its tenderness, bear a second application of caustic, and was therefore dressed with a mild poultice. It showed no disposition to heal although left to itself.--During this process a pill of three grains of extract of hyoscyamus was given morning and afternoon; and at night a pill of three grains of opium with one of extract of belladonna.—Soon after the eschars, produced by the caustic, had separated, the pains began to lessen and gradually went off. So that at about the middle of October, that is, about two weeks, after the last course was begun, and four months from the time the treatment was undertaken; he was well enough to lay aside medicine, soon able to walk abroad, and he rapidly recovered full health, retaining only a slight weakness of the limb.

Anomalous Symptoms following Vaccination: Extracted from a Letter to one of the Editors.

[Communicated for the New England Journal of Medicine and Surgery.]

IN looking over my notes, I thought the following case might be worthy communicating to you, which is the principal purpose of my writing at this time. I do not recollect ever meeting in practice or books, a similar case, as arising from inoculation for the vaccine disease; although, in the more early stage of substituting this for the variolous disease, it was very common to produce pock in the manner here described. It may possibly serve to elucidate some of the laws relative to the animal economy. It will at least give an additional proof of the length of time in which a concentrated poison may continue in the human system, even for a series of years; apparently inert and dormant in its place of lodgment, and yet retain all its capacity for virulent action, whenever circumstances, or some peculiar disposition of the constitution may become favourable for the

development of its deleterious agency. Such as the poison introduced by canine rabies, &c. &c.

1814, June 11th. I inoculated with the vaccine disease, in both arms, Mr. T. C., about 50 years of age. On the eighth day I examined and found that the inoculation in both arms had taken well. To prove the constitutional affection, but more particularly to show my patient, that pock could be generated at will, I inserted under the cuticle of the left arm, in four places, fresh virus, taken on the point of a lancet from the pock, at the original place of inoculation. These four places formed something like an half circle above and partly around it, at about two or three inches distance from the pock, and from each other, meaning that they should be without the areola which was then commencing.

1817. During the summer of this year, he frequently experienced in these places an itching, or rather a stinging sensation, as he says, which induced him to rub the place.

August 24th, being Sunday, whilst changing his linen, he observed a singular discoloration of the arm at this place, and as he had not bruised or hurt the part, he could not account for it, until some of his family reminded him of the punctures we have mentioned. On the next day, viz. August 25th, he shewed them to me. The four spots of discoloration around and where the punctures had been made, were, each of them, about the size of ninepence, or rather larger. They appeared a yellowish green, as if the blood had been settled under the skin from a severe bruise, and before perfect absorption. I examined his arm again on the 26th. The discoloration of three of the spots had rather faded, the other retained the same livid or yellow greenish hue, as on the day previous. There was a red speck in the centre of each spot, under the skin, which was the place of puncture. They caused no uneasiness or disagreeable sensation, further than the occasional sting or itching before mentioned. I desired Mr. C. to notice the further appearance and sensation of the part, as it was a singular case, and might at some time be useful to illustrate how long a poison may remain locally dormant and innocuous in a system guarded against its influence.

I should remark, that these punctures produced pock, which filled and turned with the original inoculation, and exhibited the usual appearance of such punctures charged with the vaccine virus, when made on the 7th or 8th day.

Sept. 2d., examined his arm; there is at this time no discoloration whatever. He says, he could discover it yesterday at one of the four places, but only slightly. There has been no

itching, or otherwise stinging sensation, since the first appearance of its being discoloured. He now, on further inquiry, says, that this arm, at those places, has been occasionally affected with this stinging or peculiar sensation, ever since the time of his having had the kine-pock, or since the punctures were made; that the sting has always been confined to those places, and in a spot or point as small as the imagination can conceive. He has frequently, he says, taken off his coat, in order to rub on the shirt over the place, nearer than the coat would permit—but always lightly; as light rubbing gave the most pleasant sensation.

1818, August 13th, Mr. C. shewed me his arm; the spots are now very visibly tinged with a greenish yellow. He informs me, that they have been so for several days; that the part itches at times, but less than it did the last year.

1820, November 24th. Since writing the above, I called on Mr. C., to inquire if he continued to feel the occasional irritation from the part punctured. He answered that he has felt the stinging sensation at times, especially in the hot season of the year; but *that* feeling was this year much less acute and troublesome than formerly. That for two or three days past it had itched considerably, but he was careful not to irritate or increase the sensation by rubbing it. He took off his coat, and turned up his shirt, that I might view the part. At two of the punctures, there is the greenish tinge I have before described; in one of which it was about the dimension of a six cent piece, in the other about two-thirds that size. "If you had asked me last week about them," he observed, "I should have said they were well." It is now six years and four months, you will notice, since the virus was inserted.

The foregoing statement is copied from my notes, as I made them at the times of observation and inquiry.

I have observed, that when this additional inoculation was made, the system was under the full operation of the vaccine disease, and, I may say, completely saturated by its influence. Is it not probable, that the virus inserted in this state of the system could not be absorbed? that it was accelerated by the advanced stage of the vaccine disease, to too speedy action for its being entirely eliminated? that it therefore remained in a system defended from its power of general action, and could, therefore, only shew itself locally, during that season of the year, when the heat of the atmosphere becomes so constant and accumulated, as to produce profuse perspiration, and induce a tendency of the fluids to the surface? or when some unknown or indescribable state of the system occurs, which permits an exertion of the virus to produce its customary action? Whether my reasoning on this

case prove correct or otherwise, I am fully satisfied, that the occasional irritation and appearance arises solely in consequence of the inoculated punctures.

I am with respect and esteem, your friend and servant,

Newburyport, Nov. 24, 1820.

OLIVER PRESCOTT.

Case of Rupture of the Neck of the Uterus.

By S. PHINNEY, M. D.

[Communicated for the New England Journal of Medicine and Surgery.]

I HAVE for some time doubted whether the following account of a case which came under my care, July last, would be interesting to you or not; it made a deep impression on my mind at the time, and I hastily drew up what I now take the liberty to send you.

C. B. of Yarmouth, of a robust constitution, very tall, aged about 20 years, was taken in labour of her first child, July 3, 1820, 3 o'clock P. M. A noted quack was called in to her assistance; the liquor amnii was discharged in about six hours, and she had pains such as promised a speedy and happy delivery; but these soon after subsided; and after continuing with her a while, the practitioner gave her a pill of opium, and left her. A midwife was now called in, and after remaining with her some hours, informed her friends there was no prospect of her being delivered without the use of instruments.

I was now sent for, and arrived at 4 in the morning of the 5th. On examination, I found the presentation of the child natural, a small soft substance was felt rather protruding into the vagina, which had been taken for a presentation of the placenta, and endeavours made to extract it. It was about three or four inches in length. She was in the second stage of labour, and the pelvis appeared to be very well formed. The parts concerned in the process of delivery very sore and irritable. As my patient's strength appeared much exhausted, and as she had suffered much from repeated and painful examinations, and a free use of stimulants, such as spirit, hot drinks, &c. I thought it prudent to wait, in order to ascertain what nature might yet do in accomplishing her designs. She was directed to have some nourishing diet, and her mind encouraged. A stimulating injection was ordered, as she had been some time costive. Pains soon after came on at regular intervals and with increasing force: nothing was now done, but to wait their

their effects except to apply the palm of the hand firmly to the abdomen; considering it unnecessary to resort to the use of instruments so long as the child appeared to advance, however slowly. Thus waiting, I had the satisfaction to find nature accomplish her intentions shortly after. The child was expelled, and as was expected, dead; it weighed about eight pounds. My patient was now as comfortable as could be expected. I left her in about two hours, with directions to have her kept very quiet, to avoid every thing in the least stimulating, and at night 25 drops tinct. opii were to be given, if required. In about three hours I was sent for in haste, with a message that my patient was dying. On my arrival I found her in convulsions, her pulse very quick, small, and occasionally intermitting; skin cold. She was apparently expiring. She continued in this state, with slight intermissions, for about four hours, notwithstanding the use of the warm bath, frictions, volatiles, tinct. opii, camphor, injections, &c. When the convulsions subsided, she was left in a stupid state, from which she never entirely recovered. She was blistered freely about the head, and neck, and abdomen; the bowels kept freely open by the use of cathartics and injections, the perineum was frequently fomented, sinapisms applied to the feet, &c. &c. but she continued to get worse under every variety of treatment that seemed to offer relief; pulse extremely quick and small,—lochiai discharges had stopped,—made no complaint except when roused, and then only of a sense of soreness about the hips: skin soft and moist, urine high coloured, and passed with some difficulty, rather scanty; bowels open, no sickness or vomiting. She expired on the third day from her delivery. On examining the abdomen after death, nothing was found unusual, until coming to the uterus; this was much larger than usual for the time after delivery, very soft, and much engorged with blood. It contained a fluid resembling thin chocolate; about four ounces. A rupture of the neck of the uterus now discovered itself, and, as I believed from the beginning, constituted the presenting soft substance before alluded to. It appeared much smaller than when felt per vaginam. Its edge was smooth as if cut by a sharp instrument. The external organs of generation were much inflamed and swollen. I was not allowed a farther examination.

New-Bedford, Feb. 6, 1821.

P. S.—At no time of my seeing this patient. did the pulse in the least indicate bleeding.

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Cases. By J. Homans, M. D.

[Communicated for the New-England Journal of Medicine and Surgery]

CASE I.

MAY 24th, 1820, I was called to visit C. H. aged 11 years. Last night he was attacked with pain in the right side, over the short ribs, and extending half the space between the last rib and the spine of the ilium. Pain increased much by a long breath; pulse hard, frequent, 100 in a minute, and small. (This boy had always been weakly, having had a violent fit of sickness when two years old, which was called, by the attending physician, inflammation of the liver.) Tongue slightly coated, skin hot and dry.

Gave him calom. gr. X. to be followed by senna till it operated. Applied a blister over the right side.

25th. He had passed a restless night, pain undiminished, though vesication was effected and the cathartic had operated well. Pulse, skin, &c. much as yesterday Took xij. oz. blood from the arm, gave ipecac. gr. xv. tart. antim. gr. ij. After the operation, directed pediluvium, &c. to induce perspiration.

26th. Had a better night. Pain abated. Pulse softer, 100. Tongue becoming yellow. Emetic had operated well. He has had nothing pass the bowels for 36 hours, grows weaker fast. Ordered an injection, gave a powder composed of 1 gr. calom. and 1½ gr. ipecac. once in 4 hours.

27th. Passed a sleepless night: pain increased, pulse 110, heat unabated, tongue rather dry; had two evacuations from the bowels last night. Directed a blister to be applied over the pained part, calom. and ipecac. to be continued, and opium 1 grain at night.

28th. Had a better night: pain diminished, pulse 95, skin softer and less hot, tongue moist and cleaning at the edges. System affected by the calomel, bowels opened. Calomel was discontinued. Ipecac. to be given as before. Opium at night.

29th. Patient gains: pain nearly gone, and febrile symptoms passing off: pulse 85, and soft. I observed this day my patient was extremely emaciated, considering the time he had been sick.

30th. Tongue cleaning, skin nearly natural, appetite returning, bowels free. Complains of more pain in the right side, which appears swollen. Applied another blister.

From this time he gained strength, though not flesh, for ten days, when I was sent for, June 10, on account of great pain in

the bowels. There was much tumefaction of the whole abdomen; the surface over the painful part appeared rather softer and more distended than the rest. Next day we had a consultation of physicians, when it was determined to make an incision. I made an opening through the integuments and muscles of the abdomen, and matter poured out to the quantity of 5 gills. The matter continued to be discharged daily; and the boy, by the aid of bark in large doses, and wine, with the most nourishing diet his stomach would bear, gained strength and flesh; the pain and tumefaction subsiding. About the 20th an incident somewhat remarkable occurred. On dressing the wound one morning, he perceived that the abscess had not discharged as usual, and that a body resembling a worm filled the orifice. He took hold of it and pulled out a worm 9 inches long. It resembled the common round worm, the head appearing dissolved by the pus. From this time, he grew better, and is now able to go to school and play as other boys. The abscess has continued discharging for the greatest part of the time since; though the orifice has been closed for a month or two together, and then broken out at the same orifice.

Quere. Where did the worm originate? Did it perforate the intestine?

Case of extensive abscesses of the Cellular Membrane.

D. B. G. Esq, aged 43, a man of good constitution, of the most regular habits, was attacked on the evening of Nov. 21st with chills, followed by heat. He had worked with a saw during the day unusually hard.

Nov. 24th. I was this morning called to him, found him complaining of great pain in the right shoulder and some pain in the hips, skin hot, tongue furred, pulse soft, about 90. He told me he had yesterday taken wine of antimony, which operated several times as an emetic and cathartic. Gave him jalap \mathbf{xx} . calom. \mathbf{viii} . applied a blister from top of the right shoulder to the elbow. Gave powders of ipecac. and opium.

25th. Vesication was produced. Cathartic had operated. Pain unabated. Complaints of difficulty of breathing. Other symptoms same as yesterday. Took \mathbf{xii} . oz. blood, and applied blister to thorax.

26th. Patient passed a bad night, being exercised with great pain. He is unable to move the arm. Blood exhibits no buff. Pulse 100, and easily compressed. He feels exceedingly debilitated. Bowels constipated. Ordered castor oil, $\mathbf{\bar{3}i}$. and continued ipecac. and opium.

27th. Felt rather easier. Had some sleep during the night. Had profuse perspiration. Castor Oil operated well. Head feels disagreeably. Placed a large blister on back of neck.

28th. Blistering plaster drew well. Mr. G. complains of great tenderness of the flesh on the right shoulder, and over the right side of the body. Much pain on motion of the hips, especially of the right.

29th. On examining the right side and the back, perceived a swelling hard as wood apparently, in the muscles of the shoulder, and most of the space from shoulder to the hip, and erysipelatous inflammation covering the same, heat of swollen surface great. The skin surrounding the right hip, was of a colour approaching scarlet. Directed lead lotion for the side.

30th. Had a great deal of pain during the night: says his right side feels as hot as if lighted coals were in contact with it. This we were not surprised at, when on lifting the clothes we found a blister had arisen *sua sponte* of from 12 to 15 inches in circumference, filled with serous fluid; the skin on that side had become of a darker hue, extremely sensible to the touch. The right thigh and leg were much swollen and hot, though of a more natural colour than the side. His sweats had been profuse at times for several days, pulses varying from 100 to 130.

From this period to the 21st December our patient remained much the same, suffering greatly. His tongue had become clean. On the first of December we administered calom. and opium, and affected the system.

21st. Mr. G. has no appetite. Pulses 120. Inflammation on surface of body had diminished. Right arm and hip are totally helpless. The outer side of the thigh presented the feeling of matter, extending from the great trochanter to two inches below the knee. I made an opening 5 inches above the knee, through which were discharged 7 gills of pus on that day. The swelling and heat of the limb diminished, and after discharging for a few days the abscess healed, and no farther discharge took place from it afterwards. To this period, our patient's bowels were kept open by the use of injections, and the feces varied little from those of a person in health. Bark and wine were given, and on the 25th we thought him convalescent. About the 25th, Dr. H. of Pomfret, Conn. was called in consultation. On this day two more abscesses were opened, one near the armpit, the other at the end of the short ribs. Both discharged, freely, purulent matter; the probe would pass its length in all directions under the muscles when introduced into that on the breast. These discharged for several days, when the opening at the end of the short ribs ceased. After a few

days, matter burst out of this opening extremely foetid, and the probe passed in a new direction, viz. under the ilium; indicating that a new abscess had burst into the old one. During the discharge of matter from these abscesses, numerous strings of cellular membrane presented at the orifices, which were pulled away with forceps. Pulses this day 110, feeble.

On the night of the 30th, Mr. G. had a severe ague fit, which lasted an hour or more, followed by violent heat, which was of about the same duration, and was succeeded by copious sweat. Bark, the best red, was now administered, to the quantity of ʒij. a day, in decoction, and wine to the quantity of a pint in 24 hours.

About this time an abscess was opened on the left arm, not preceded by pain, which discharged half a pint, and healed in a few days.

Jan. 7th. Notwithstanding the liberal use of bark, wine, and acids, the profuse sweats came on nightly, sometimes preceded by rigors. An inflammation had appeared in the left eye for several days. On this day we ascertained that vision was totally lost; the pupil was insensible to light, neither contracting at the approach, nor dilating at the removal of a lamp. From this period our patient declined to the 14th, when he died, having possession of his reason till a few days previous to his death.

It was a subject of regret to me that an opportunity did not present to examine the right hip after death; as there appeared no cause for his death. His abscesses appeared healing or healed, with the exception of that near the hip.

Account of monstrous growth of fleshy substance in a child of five years old.

In April, 1819, — Shepherd, aged 5 years, was brought to me by his parents on account of occasional pain in the bowels, which appeared hard and swollen. He was able to run and play as other children, then would complain of the belly-ache. In March, he was taken unwell, had slight fever, was attended by a physician, who treated his complaints as if occasioned by worms. He soon got better, and the abdomen was observed to increase in size.

On examination I felt a hard tumour of a conical form, with the apex at the pubis and the base near the extremity of the short ribs, on the left side. The whole abdomen felt solid and tense. His appetite was good, and pulses regular. I gave him small powders of calomel, &c. I did not see him again till May 22d, when his abdomen had enlarged, had a similar appearance and

feeling as before. In September I was desired to visit him, and found him emaciated and reduced to such a degree that he could neither walk nor stand. The abdomen was so much distended that veins were visible over the surface. The right side at this time presented a feeling as if water might be there, and with the advice of a physician who was present, I introduced a trochar; it met with no resistance; nothing but a little blood followed. The wound healed in a few days, and the boy lived a fortnight. After death, permission was granted to examine the body. On opening the abdomen, large lumps of fat presented themselves to view, varying in size from 2 to 4 inches in diameter. On cutting them, matter was found in the centre, occupying a space large as a bean. The intestines were enveloped in this mass. From the pubis upward extended a hard fleshy substance, originating from the neck of the bladder, and connected with the kidney of the left side by strong adhesion. The stomach, liver, &c. were not readily seen, being pressed under the ribs so as to encroach upon the cavity of the thorax; they were of natural appearance, as were also the organs of the chest. The boy weighed 40 lbs. after death, and after removing the tumours he weighed 24 lbs. The substance removed weighed 15 lb. 8 oz. and 8 oz. of water were floating in the abdomen.

Desultory remarks on Poisons, Antidotes, etc. suggested by the perusal of Orfila's General System of Toxicology. By WM. TULLY, M.D.

[Communicated for the New-England Journal of Medicine, &c.]

THE term Poison, if it means any thing definite, denotes an agent which in improper, and ill-timed quantities, produces deleterious effects upon an animal system.

The term, Medicine, denotes an agent, which in proper and well-timed quantities, is capable in some manner or degree of counteracting disease.

It is in the highest degree probable, that every article capable of acting upon an animal system, may, by skilful and judicious management, be rendered medicinal, and that no article which under these circumstances, is incapable of proving medicinal, can be at the same time poisonous.

It is however true, that all poisons have not in fact been employed as medicines; nor in the present state of science is the management of all understood; but there is the most conclusive analogy in favour of the opinion, that they are all capable of such an application.

Poisoning, then, is only an occasional ill effect of a medicine ; and the terms poison and medicine appear to be perfectly convertible. They seem to have been so considered by the enlightened Greeks, who called both by the same name. It is said to have been a maxim with Linnæus, that poisons differ from medicines, not in their virtues, but in their doses.

Medicines, and consequently poisons, most probably produce their primary effects, either upon the external surface of the body, or upon the membrane which extends from the nostrils into the lungs, or upon the alimentary canal. Other parts of the system, it is most likely, are affected either by propagation of action along continuous parts, or through the medium of the nervous system ; and it seems pretty evident, that all produce, both medicinal and deleterious effects, by virtue of some peculiar action which they excite. The quantity of the agent employed, the particular structure of the part affected, and the state of the part, at the time, occasion important modifications of the effects produced. Those effects which are medicinal, are capable of being produced in much greater variety, than those which are deleterious or poisonous ; and the similarity and diversity of such effects affords the foundation of one of the best species of classification in *Materia Medica*. Those effects which are deleterious or poisonous, are comparatively few ; and were we to treat exclusively of the ill effects of articles, this would in like manner, afford a good foundation for classification. But classification, either from the unprepared articles themselves, or from the proximate principle in which the power resides, or from the effect exclusively, applies equally to medicines and poisons, and in the two first instances, must coincide. In the last, for obvious reasons, they do not coincide.

Poisoning, or the deleterious effects of agents upon an animal system, consists in some degree of disorganization, irritation, stupefaction and exhaustion, or some combination of these. These effects of poisonous drugs, seem to correspond pretty regularly with some specific disease, and the variety of these effects, is limited to inflammation, either phlegmonous, erysipelatous, or gangrenous, or to ulceration, or to cholera, diarrhœa, dysentery, or cholic, or to convulsions, coma, apoplexy or palsy, or to marasmus.

It is obvious that there can be but two methods to remedy poisoning, the removal of the operating article, and the counteraction of its effects. The method of removal must be regulated by the qualities of the agent, and the part to which it is applied. The counteracting means must depend altogether upon the effects produced. As no two animal systems can ever be

supposed to be in identically the same state, or even any individual system at different times, there can be no such thing as absolute identity of effect, either medicinal or deleterious, from any one agent, and consequently there can be no such thing as specific remedies, specific poisons, or specific antidotes.

The physician is almost universally called not to remove the acting cause, but merely to obviate the deleterious effects. When he is required to remove the cause, it is always from the alimentary canal, and this can be accomplished much more speedily and effectually, by suitable emetics and cathartics, than by any chemical means, whose operation is at best but slow, and cannot but be retarded and modified by the vital power of an animal system. Even the few instances of poisoning by acids and alkalis, can hardly be considered as forming an exception to this remark.

As it is in the highest degree probable, that no agent produces its medicinal or deleterious effects, in consequence of being taken into the mass of the circulating fluids, either from the external surface, or from the membrane which lines the nose and lungs, or from the alimentary canal ; and as it is still more highly probable, that if any article should be taken up by the absorbents of any part, it would be decomposed, and its elements again combined in some new form, or somehow so changed, as to destroy its identity, or modify its effects ; and as injections into the blood vessels, even of substances absolutely inert when applied in any other way, must always, by their mere mechanical effects, produce more or less mischief, this can never be a method of applying agents for medicinal purposes, and from the nature of the process, can never be a casual method, by which they may cause injury ; so that experiments of this kind upon living animals, are not only entirely futile and useless, as respects the acquisition of any profitable knowledge, either of the medicinal or deleterious effects of agents, but are in fact, absolutely barbarous and cruel.

As tying the œsophagus, however dextrously done, must always be productive of very great disturbance in an animal system, and in consequence of the injury from the cutting and the application of the ligature, together with the necessary inflammation, adhesion, and interruption of function, must inevitably, in a longer or shorter period, and of itself, prove fatal ; and as confining even an otherwise inert article to the stomach, in such a manner, and with such accompanying circumstances, would unquestionably cause effects very widely different from what could possibly take place under different circumstances, and might upon mere mechanical principles, greatly aggravate the symptoms ; and as such a process can never be employed either

to promote the operation of remedies, or happen from casualty, so as to produce deleterious effects, this operation must be considered to be much more futile and barbarous, than injections into the blood vessels, and in my view affords satisfactory evidence, that the man who can coolly and deliberately practice such cruelties, under the idea that he is promoting the cause of science, is a fitter candidate for the strait-waistcoat, and a mad-house, than for the countenance and applause of a humane and truly enlightened community.

As a knowledge of all the possible ill effects of agents upon the skin, bronchial membrane and alimentary canal, and the circumstances under which they may take place, is a necessary part of *Materia Medica*, and is absolutely essential to the best use, and safe employment of every efficient article of medicine, so Toxicology as a distinct branch, is altogether useless, and seems to stand in the same relation to *Materia Medica* as empiricism to rational practice, or as Alchymy to Chemistry; and as the cure of disease depends upon treatment, which must be carefully adapted to the existing symptoms and conditions of the patient, so the search after specifics and antidotes, appears about as judicious, as the search after a universal remedy, a universal solvent, or the philosopher's stone.

Orfila's work seems in fact, to be founded altogether upon the erroneous principles of specific remedies, specific poisons, and specific antidotes, and though a work upon such false premises, may contain many useful facts, yet observations, experiments and reasoning, made under such impressions, and with such views, can be but little relied upon, and in general, are incapable of being applied to much useful purpose. Such a writer must of necessity combat a mere image of straw of his own setting up, and finally must inevitably lose himself and his disciples, in pursuit of an *ignis-fatuus*. Indeed the plan of searching after and relying upon particular antidotes, seems to be a remnant of the ancient doctrine of specifics, and leads directly to the empirical method of prescribing merely to the names, instead of the symptoms of diseases.

From an attentive examination of Orfila's work, the general notions upon physiology and pathology, seem to be no better than the doctrines upon poisons, and their antidotes; as for instance the confounding of the convulsions of death, with high phlogistic or sthenic diathesis.

It is a matter of surprise that the American editor of this work should have supposed that savages understand the management of poisons, or the ill effects of agents upon an animal system, better than scientific physicians. What they do, must be altogether up-

on the false principles above exposed, and consequently altogether empirical in the loosest sense of the term. The notion in question must have been formed without consideration, or its author must have been deficient in a knowledge of the true principles which regulate sound medical practice. Suitable instruction in the principles of Physiology, Pathology and *Materia Medica*, affords the best possible qualification for the management of poisoning or the deleterious effects of medicinal agents.

Perhaps the most striking difference between ancient and modern physic consists in the improved, enlarged and more liberal views at present entertained by physicians upon this subject. Formerly it was a principal employment of the practitioner, to search out poisons and their antidotes, but of late, many of those very poisons afford the most efficacious means of restoring health.

The dread of poisoning has ever been confined to ignorant, superstitious and barbarous ages, and like witches and ghosts, has always fled before the light of science. Poisoned food, poisoned cups, poisoned springs, poisoned arrows, and even poisoned bullets, have at different periods, filled the world with terror; but since accurate observations and satisfactory evidence have demonstrated, that malignant and pestilential diseases frequently spring up without any assignable cause, and that lacerated and contused wounds are ever liable to assume a gangrenous state, these phantoms have nearly vanished from the civilized world, and it is much to be regretted, that Orfila, or even Accum, or any reputable medical writer, should attempt to revive such delusions of a credulous age.

Although many valuable things may occasionally be dug out of a heap of rubbish, so that in this point of view Orfila may merit a cursory reading, yet it has always been matter of wonder, that his work should have acquired so much celebrity. His cruel and inhuman experiments are disgusting to all the better feelings of the heart, and unlike those instituted for the demonstration of the circulation of the blood, have not the apology, even of the most inconsiderable degree of utility.

It will be perceived, that these remarks are intended to refer more particularly to the great body of Orfila's work, and are not designed to apply to the effects of the bites of rabid animals, the bites of venomous reptiles, the stings of venomous insects, specific contagions, morbid secretions, or to exhalations from decaying animal and vegetable substances. These have little or no affinity with poisonous drugs,

and certainly require a treatment founded upon widely different principles, from what Orfila seems to suppose. If time permitted, it would be easy to show that most of his doctrines on this subject are as fallacious as those already considered.

Middletown, (Con.) February 5, 1821.

REVIEW.

ARTICLE III.

De l'auscultation mediate ou traité du diagnostic des maladies des Poumons et du Cœur, fondé principalement sur ce nouveau moyen d'exploration. Par R. T. H. LAENNEC, D. M. P. Médecin de l'Hospital Necker, Médecin honoraire des dispensaires, membre de la société de la faculté de médecine de Paris, et de plusieurs autres sociétés nationales et étrangères. Tom premier. A Paris, chez J. A. Brosson et S. J. S. Chaudé, Libraires. 1819.

THE frequency and the danger of diseases of the thoracic viscera are too well known. That we may learn how to remove them, when curable; that we may know what we do cure, when our remedies appear to be successful; that we may know when the disease is incurable, so as not to harrass the patient by powerful but injurious remedies; we must study with accuracy the diagnosis of these diseases. But shut up as the organs of the thorax are in a bony case, and thus excluded from immediate examination, we commonly rely on the changes produced in the functions, and on the kind and degree of constitutional affection, to guide us in distinguishing the diseases of the thoracic organs. These guides are useful, but they are often insufficient; and it becomes us to regard with attention every attempt which is made to throw new light upon these important subjects.

The principal local symptoms, by which we recognize diseases in the chest, are pain, difficulties in respiration, difficulties in assuming particular positions, or in performing particular motions; cough and the character of the matter expectorated, or the absence of expectoration; and irregularities in the action of the heart. In addition to these, Hippocrates placed some reliance on shaking the body to ascertain the presence of any liquid in the cavities of the pleura. In the last century an important improvement was made by Avenbrugger, in teaching us to examine the chest by percussion. He observed, that in striking upon the thorax, when its contents are in a natural and healthy state, there is a resounding similar in kind, though not in degree, to that produced by striking on a cask which contains air only.

This is at once explained when we consider how large a portion of the chest in a healthy subject is occupied by air. But if the bronchia and air cells be filled up, or if they be compressed either by an effusion into the cellular membrane of the lungs, or by any matter liquid or solid, deposited in the cavity of the pleura, the same effects will not ensue upon percussion. The sound in such cases will be flat. In adopting this mode of investigation not only experience is necessary, but various circumstances must be attended to, which it does not belong to us at this time to point out. To distinguish whether respiration is carried on mostly by the thoracic muscles, or by the diaphragm, we may employ pressure, first on the chest and then on the abdomen. This simple and ingenious method is described by Hall, in his valuable work on diagnosis, and so far as we know, was discovered by him. If, in a case of difficult respiration, pressure on the sternum greatly aggravates the difficulty of breathing, we are satisfied that some cause impedes the action of the diaphragm. On the other hand, if pressure on the abdomen increases the dyspnœa, we ascertain that some impediment exists to the free play of the thoracic muscles. In all obscure cases we should have the body of the patient stripped, and observe the mode of respiration in different positions, as likewise whether there is any unusual difference in the form or size of the two sides of the thorax.

There are also other modes of examining the chest, some of which have been long known and practised. We all attend to the sounds, which are made under different kinds of dyspnœa. The sound, which belongs to humoral asthma, and that, which is peculiar to croup, are familiar to every physician.

Palpitation of the heart is attended by a sound, which is often painfully distinguished by the patient, and which the physician is said to have distinguished in some cases, when sitting by the patient's side. When laying the hand over the heart, we often seem to distinguish this sound. We know not how commonly the same thing is done by others, but we have long been in the habit of examining the respiration, especially in children, by laying the hand lightly on the chest and on the abdomen. In this way we distinguish the degree of rapidity in the breathing, the degree of effort, with which it is performed, and also in some instances the rattling with which it is attended in different parts of the thorax.

In diseases of the heart another method has sometimes been adopted. To ascertain the force of action in that organ, and distinguish the peculiar sounds sometimes produced by it, when under disease, the physician has laid his ear over the cardiac

region. But to this mode of examination there are some obvious objections. One would prefer not to place his head in such close contact with a filthy patient in a hospital; on the other hand, a lady of refinement would sometimes object to this mode of examination. It was precisely in such a case that Laennec first thought of employing some intermediate substance to convey the sound from the breast of the patient to his own ear. He rolled up a quire of paper very firmly, and placing one end of it on the patient's breast he applied his ear to the other. He was surprised to find how well his purpose was answered. He had been in the practice of laying his ear directly over the heart in such cases, but he found that the sound was conveyed more perfectly through the instrument than to the naked ear. This led him into a series of experiments, in the course of which he employed instruments of various forms and various materials. The result was the adoption of the instrument, which we shall presently describe, and to which he has given the name of *stethoscope*. He also employed the same method of investigation in diseases of the lungs, and found it even more useful in these, than in diseases of the heart. By the use of his instrument, and by connecting the observations which it furnished him, with the appearances noticed after death, he made some discoveries, which he had not anticipated. As one new path in the investigation of nature almost always leads to others, he was induced to inquire more accurately into the history of pulmonic diseases than he had before done; and professes to give us some new observations in respect to the nature of these diseases, as well as new rules for their diagnosis. Thus he has produced a work of two good sized octavo volumes, and one, which we do not hesitate to pronounce valuable, even although all the observations and opinions of the author be not verified, and although his stethoscope should prove less adapted to general use than he believes it to be. To this general view of the subject of this work we should add, that Mr. Laennec does not propose to disregard any of the modes already in use of investigating the diseases of the chest. He proposes only that his new method should be employed in addition to the others, not as a substitute for them.

Laennec's *stethoscope* is made of any wood of a medium density. The most compact substances are not, he says, the best, although one might think they would be. The form of the instrument is cylindrical. It is twelve or thirteen inches in length, and its diameter is an inch and an half. Each end is very slightly excavated. The instrument is pierced longitudinally so as to make it a tube. This longitudinal cavity is cylindrical and is a

quarter of an inch in diameter. This is a description of the whole instrument; but it is composed of three parts. First it is divided in the middle, the two parts being united by one screwing into the other. This division is designed only to render it more portable. Next, there is a small piece at one end, which may be removed from the main body of the instrument. When this is removed, it leaves the end, from which it is taken, with a broad opening in the form of a funnel, and this opening terminates in the canal which perforates the instrument. When the end piece is replaced it exactly fills up the funnel-shaped extremity of the tube. In this end piece is a thin tube of brass, one quarter of an inch in diameter externally, and this tube of brass projects like the nose of a funnel from the smallest end of the wooden part about an inch and a half. This projecting part of the brass tube, entering the body of the instrument, serves to keep the parts united without any screw.

The dimensions of the funnel-shaped opening above described, and which appears in the instrument at one end when the small piece is removed, are as follows;—it is about an inch and a half in length, or depth, and an inch and three eighths in diameter at its largest part. Of course it is gradually diminished in diameter as it approaches the cylindrical canal, in which it terminates.

From this arrangement it appears that we may sometimes employ the instrument as it was first described above, and at other times, removing the end piece, we may place the funnel-shaped opening on the breast of the patient. When the instrument is used to ascertain the signs furnished by the voice, the end-piece is kept in its place; when for other purposes, this piece is removed, and the funnel-shaped end is placed on the breast of the patient.

We have next to consider what can be ascertained by the use of this instrument. In order to do this we shall present an analysis of the work before us.

Laennec divides his work into four parts. The first part treats of the signs, which may be derived from the voice, by means of the cylinder, or stethoscope; the second, of the signs furnished by the respiration; the third of such as are derived from the rattling in the organs of respiration, resulting from the motion of liquids effused in the air passages; and of such signs as arise from fluids effused into any of the thoracic cavities; and the fourth part contains an analysis of the sounds produced by the pulsation of the heart in health and in disease, and gives the particular signs of the various diseases of the heart and of the aorta. It will thus be seen that the au-

thor takes a large range, and if every thing, which relates to his new instrument, were excluded, his work would still deserve great attention from those, who consider the natural history of diseases to be as interesting as that of plants and minerals. Those, who believe that diagnosis is derived from inspiration, and is not to be learnt by study, may disregard the labours of Mr. Laennec, and may turn away from the pages, in which we shall attempt to give some account of them.

Part I., chapter I., treats of the *phenomena which relate to the voice in general*. When a sound and healthy man speaks, or sings, his voice resounds within the breast, and produces a sort of trembling in the parietes of that cavity, which may be easily perceived by applying the hand on any part of those parietes. If, from any cause, the air cease to pervade the lungs in any part, or if the lungs be compressed in any part by a cause existing within the chest, over such parts the phenomenon above described will not occur.

All this is true, if the subject, on whom our observations are made, be well formed, be not too fat, if the integuments be not particularly flaccid, if the voice be not too sharp, nor too weak, &c. But from these various causes the examination by the hand will often fail to give us accurate information. Mr. Laennec believes that these causes will not prevent us from deriving accurate information by the use of the cylinder. Through this instrument the sensation arising from the tremor of the thorax is conveyed to the ear. The sensation is not so distinct as that produced on the hand, but it is less varied by external circumstances, and we can therefore ascertain with more precision the state of the internal organs. The intenseness of the sensation varies, as the instrument is applied to one or another part of the thorax. It is most intense when the instrument is placed in the arm-pit, on the back between the vertebral column and one of the shoulder blades, and on the upper part of the breast in the angle formed by the union of the sternum and clavicle. If the instrument be placed on these parts, the voice seems to be stronger and more near than to the naked ear; but, if on other parts, the voice appears weaker and more distant.

Such are our author's observations on the sound chest. But accident discovered to him something very different in certain cases of disease. In these cases the voice appears to come directly from the chest, as if it passed through the central canal of the cylinder. This happens where there is an excavation in the lungs, and this is in communication with the trachea. For instance, if suppuration has taken place in the upper part of the lungs on either side, and the cavity formed by the disease

communicates with the bronchia, so that the air in respiration passes freely into that cavity, then the voice will pass in the manner described, when the instrument is applied over this diseased part. It is easy to perceive that the same effect must take place if the cavity be in any other part of the lungs. But in proportion as the cavity is more distant from the parietes, or in other words deeper in the lungs, the voice will be more feebly heard through the cylinder. On the other hand the adhesion of the parietes of the cavity to the chest renders the voice more distinct.

To this phenomenon the author gives the name of *pectoriloquy*. He says that the same phenomenon may be observed in placing the instrument upon the larynx, or trachea of a healthy man. In using the cylinder to ascertain this phenomenon, the end-piece should be kept in.

Chapter II. treats of *phthisis pulmonalis*. Mr. L. confines this name to the disease, in which tubercles exist, and which is commonly considered as a species under the name of tuberculous *phthisis*.

The origin of tubercles has lately been referred by Dr. Baron and, it seems, formerly by Morgagni to hydatids. Respecting their origin Laennec offers no opinion. He was not acquainted with that of Baron, yet they agree in believing that the processes, by which tubercles become evacuated, are not processes of inflammation. Tuberculous excavations, says Mr. L. differ from ulcers in this respect, that an ulcer extends itself by corroding the texture, in which it is formed; on the other hand a tubercle, which is an accidental production, and fills up a portion of the lungs, separating parts which were in immediate contact, does not destroy any part of them, and is not enlarged at their expense, although its contents undergo a spontaneous destruction. What we call the suppuration of a tubercle, he calls a softening of it. He is aware, that we constantly find excavations much larger than any tubercles. He accounts for this, however, by saying that tuberculous matter is thrown out in the parts surrounding tubercles, that thus several tubercles become conglomerated, and that all this matter undergoes a spontaneous softening.

It may appear to some persons unnecessary to consider this doctrine, inasmuch as it does not lead directly to any practical consequences. But it is to be remembered how often theoretical errors in one man lead to practical errors in another, when we should least have anticipated such an effect. We will therefore remark, that the explanation heretofore given is more satisfactory to us. This supposes all the processes, by which the matter

is formed and the cavities are produced in the lungs in tuberculous phthisis, to be the processes of inflammation. When those large cakes are formed, including many tubercles, it has been thought that the adhesive process of Hunter had been instituted; that a fluid thrown out by the blood-vessels into the cellular membrane had coagulated, and that afterwards suppuration had taken place in the whole mass. It is not any objection to this doctrine, that the cavity, formed during suppuration, does not increase afterwards; or, in our author's language, does not enlarge itself at the expense of the lungs. Mr. L. has not offered any proof that this does not happen. But, if it does not, who ever considered it as essential, or even as very common for the cavity of an abscess to be increased by ulceration, after its pus had been evacuated? This does not happen even in all cases where the parts are unhealthy, which we admit they are in all tuberculous cases; and it does not happen at all in a sound and healthy state of the parts, which form an abscess. That there is not tuberculous cases acute and violent inflammation we know very well; but that the processes are essentially those, which occur in the most distinct inflammations, we cannot believe to be doubtful. And we will here add that, entertaining these views, we are not ready to admit the doctrine of Dr. Baron, viz. that tubercles are hydatids. We cannot account for the change, which pulmonary tubercles so commonly undergo, if his doctrine be admitted. These tubercles are at first made up of a cyst and a solid matter. This solid matter is presently replaced by a fluid, which certainly resembles pus, and which we have always thought to be so. That this change is produced by a spontaneous decomposition, we cannot easily admit. At any rate, that suppuration ensues eventually, seems to be shown by the great quantities of matter, which are expectorated in many instances; greater by far than can be accounted for on the hypothesis that the matter is all derived from the softening of tubercles.

It has been believed by the best modern physicians, that the tubercles in pulmonary consumption never heal by a natural process, and that they cannot be made to do so by art. The foundations of this belief are examined by M. Laennec; and although he assents to its justice in the great majority of cases, he shows us that there are some few exceptions. He describes very accurately the method, by which he believes that the disease is arrested. This is by the formation of something like a cicatrix on the internal parietes of the cavity, which is formed by a suppurating, or softening tubercle. This cicatrix is a membrane which is semicartilaginous in texture. A cavity remains as before its formation, but no pus is formed upon its parietes. Sometimes a little serous fluid has been noticed in this cavity. In

every such case the original matter of the tubercle has been previously expectorated, and of course some communication has existed between the bronchia and the tubercle. This communication continues open after the internal cicatrization of the tubercle.

Thus far, then, the cure seems to be incomplete, although the parts are brought into a state more compatible with the maintenance of life, than in common tuberculous cases. But Mr. L. has some observations, which render it probable that the cure does occasionally become more perfect. According to his explanation, this happens by an adhesion of the internal parietes thus formed, so as to present after death a thick, or double semi-cartilaginous membrane. If the cure does happen in this way, without the filling up of the cavity by granulations or any thing similar, it must follow that the neighbouring parts must be drawn in by the union of the parietes of the cavity, and that a depression, more or less distinct, must show itself on the surface of the lungs. Now this is just what he has found.

We do not consider his opinions, on the natural cure of suppurating tubercles, as established, but they are rendered very probable; and he deserves great credit for his industry and accuracy in noting the phenomena, as well as for his ingenuity in explaining them. It would be doing him injustice to offer a partial view of the evidence, which he adduces on this subject; and to give the whole would occupy too much space. We must refer to the work itself for the evidence, as well as for some observations, which seem to demonstrate a variety in the processes of nature in effecting the cure described. Our main object is to show that a natural cure in some rare instances may take place in tuberculous phthisis.

Mr. Laennec believes that in cases in which the semi-cartilaginous cicatrix is formed on the internal surface of a tuberculous ulcer, but in which the cavity has not been obliterated, a chronic catarrh ensues. If this be true, it must probably be attributed to some thin and acrid fluid secreted by the semi-cartilaginous membrane, and irritating the mucous membrane of the bronchia, &c. with which it is afterwards brought into contact.

Leaving this interesting subject, we proceed to chapter III. on the *dilatation of the bronchia*. Mr. L. believes that this organic change has hitherto escaped the observation both of anatomists and of clinical practitioners. He was led to discover it by the researches following the use of his stethoscope. The enlargement is so great, in some cases, that a ramification of the bronchia, which, in its natural state, would scarcely admit the smallest probe, acquires the size of a goose-quill, or even that of a

finger. These dilated tubes terminate in blind sacks, or cellules, capable of containing a grain of mustard, a cherrystone, or even an almond. Their mucous membrane is evidently thickened and is found to be of a red, or violet colour.

This organic change is found most frequently in the upper lobes of the lungs, though not confined to them. It is commonly, though not always, confined to a few of the bronchial tubes. It takes place in a much greater degree in the small, than in the large ramifications of the lungs. The intermediate cellular membrane has the marks of having been compressed, where the dilatation of the bronchia has been extensive, just as happens when the lungs have been compressed in cases of hydrothorax. This dilatation is induced by chronic catarrh and by chin cough, and perhaps by any malady capable of producing frequent, long, and violent fits of coughing. One effect of the dilatation is an increased secretion of mucus, more or less constantly, from the parts affected. If the affection be quite limited, the disease induced is not formidable; but if a great number of the bronchia be affected, a very copious and constant expectoration of mucus ensues, with violent and protracted fits of coughing, and at times dyspnœa occurs in a severe degree. Under these symptoms the strength sometimes becomes exhausted and death ensues. But in many cases life is cut off by some other disease, and in some the patient endures all these symptoms for many years, and dies in old age.

When it is considered how large, and, in some cases, how numerous, the cavities are, which are formed in the affection just described, it will be obvious that this may give occasion for the phenomenon, called by Mr. L. pectoriloquy. It will happen on the same principle, as it does from the cavity of an ulcer, or the tube of the trachea. This, accordingly, has been observed by our author. He ascertains when the pectoriloquy arises from the cause above stated, by the character of the voice and by the noise attending respiration, as heard through the stethoscope.

He gives two cases of the disease examined after death, in which the stethoscope was not employed. These cases were furnished him by Mr. Cayol. He gives one, and the only one he had had, where the stethoscope was employed, and in which the body was examined. We will first give one of the two cases furnished by Mr. Cayol, and afterwards Laennec's own observation.

Miss M., aged 72 years, had been affected for more than fifty years, with a disease of the chest, which exhibited many of the symptoms of *phthisis pulmonalis*; such as, frequent hemoptysis, and this brought on by very slight occasional causes; an habi-

tual cough, with an expectoration of an opaque, yellow matter, having sometimes the characters of pus, sometimes that of purulent mucus; and short respiration, often a little laborious. These symptoms had been variable; they had often had well marked remissions, but scarcely any intermission. They were not accompanied by emaciation, nor did they prevent her from a considerable degree of activity in an occupation not laborious. She had not the form and external characters of a constitution disposed to pulmonary consumption.

At length having grown old under her disease, her constitution yielded. Anasarca and colliquative diarrhoea came on, her strength failed, and with great calmness she yielded to death as to a deliverer. The dyspnoea, in her last days, accompanied by an increase of hydropic swellings, rendered her incapable of moving, or of lying down; and in consequence of sitting constantly excoriations were formed over the sacrum. The cough and expectoration remained the same during all this period, while her general health was yielding; so that she was thought to sink under the dropsy, rather than under *phthisis*.

Examination of the body forty-four hours after death. Universal oedema, especially marked in the extremities and abdominal parietes. Setting aside the oedema, the body was far from a state of marasmus.

The lungs flattened very little on opening the thorax. They adhered to the parietes of that cavity by loose, cellular bands, of old formation. These bands had a gelatinous appearance in consequence of a considerable serous infiltration; the lungs were soft and inelastic; but, on pressing them, there were felt within their substance some indurated portions of different sizes, especially in the upper lobe on the right side. On dividing this lobe by the knife there were discovered a great number of cavities, round in their form, and with their internal surface polished and reddish, resembling somewhat the internal surface of the ventricles of the heart, or that of some fistulous canals. These cavities were of different sizes; the largest would have contained the end of a man's thumb. Some of them were empty, others contained a yellow, thick, purulent matter, similar to what the patient had expectorated. They were separated from each other by pretty firm partitions, formed by the condensed pulmonary texture. These cavities did not resemble those formed by an evacuated tubercle, nor those formed by common ulceration in the lungs. On close examination it was found that they communicated with the bronchia and were direct continuations of them.

These conduits, at a little distance from their origin and about the place where they ceased to be cartilaginous, became considerably dilated ; and then some of them continued of the same caliber, while others became larger and larger throughout their whole extent ; that is to say, until they had nearly reached the surface of the lungs. In their course they gave off, at different distances, branches, of which some were and others were not dilated. The walls of the dilated portions exhibited here and there cartilaginous points and some ossified points ; which existed for the most part at those little spurs, that are formed on the interior surface of the bronchial passages at the origin of the collateral branches. It was impossible to distinguish in the parietes of the dilated parts different membranes ; they seemed to be formed by one membrane alone, which was much harder and more polished than the internal membrane of the healthy bronchia after the termination of the cartilage. This single membrane could not be separated from the pulmonary texture. There could not be discovered, in any part, the slightest ulceration ; so that the pus, which these cavities contained, appeared to have been exhaled. Such was the state of almost all the bronchial vessels belonging to the superior lobe of the right lung. Those most dilated were about seven or eight times their common size ; but others were much smaller, and in some there was a dilatation just perceptible. These cavities appeared to occupy about three quarters of the superiour lobe of the lungs. The partitions between them were in some parts extremely thin, being formed by the pulmonic texture very much condensed and reduced to the state of a true membrane. In these partitions, as in almost every other part of the lobe, the pulmonary texture was blackish, compact, and full of black points ; among which there were distinguished some portions of *melanosis* of the size of a lentil and even larger. The pulmonary texture in the partitions, above described, appeared rather compressed, than hardened. Some parts of the lungs toward the surface were only flaccid and seemed to be choked up, yet remained permeable to the air. In the middle and inferior lobes of the same lung there were a few of the bronchia dilated, but no one to a considerable degree. In these lobes there were, here and there, some portions of the pulmonary texture black, or blackish, and hard ; all the rest was soft, inelastic and a little choked up with a bloody serosity, especially in the posterior part.

In the superiour lobe of the left lung there were two or three of the bronchia evidently dilated, red, hard and in the state above described ; but without any considerable cavity. In

the inferior lobe of this lung there was not found any one of the bronchia dilated. The texture of the lungs on the left was otherwise like that of the lungs on the right side.

The mucous membrane of the larynx and trachea was sound.

The heart was sound; some points were found ossified on the internal surface of the aorta, at its origin.

The liver was sound. The gall-bladder contained a thick, green bile and two calculi. One of these was as large as a filbert, the other a little smaller. The biliary ducts were sound.

The womb was enlarged and seemed to be embossed on its external surface. This was owing to many bodies, of a fibrous texture, contained in its parietes. The largest of these bodies was equal in size to a walnut. The neck of the womb projected into the vagina and looked like a thick pad; the thickening seemed to arise from an infiltration of its texture. The membrane of the hymen was in its original, unbroken state.

The only case of this disease in which Mr. Laennec had had an opportunity of applying his stethoscope and afterwards of examining the body, was much more slight than that, which has just been detailed.

In December 1817, a woman died at the hospital *Necker* of a disease, in which the thoracic viscera were not concerned. For many years this woman had had an habitual expectoration of an opaque, yellow matter, but only in small quantity. During her residence in the hospital there was discovered a pectoriloquy at about the height of the third rib on the right side. In the corresponding part of the lungs there was found a dilatation in two of the bronchial tubes. These were enlarged to three times their natural size, and one of them terminated in a blind sack, large enough to contain a filbert.

In chapter IV. part I. Mr. Laennec describes another phenomenon discovered by his stethoscope and that in cases of pleurisy. To this phenomenon he gives the name of *egophony*, or trembling pectoriloquy. This egophony is very similar to the pectoriloquy, and for some time he confounded them. The egophony resembles the pectoriloquy inasmuch as it consists in a strong resounding of the voice under the cylinder, or stethoscope. Sometimes, though rarely, the voice seems to be introduced into the tube, and very rarely it even seems to traverse, or pass through it, as in perfect pectoriloquy. The voice is more acute, and more sour or peevish than that of the patient, and it produces such an illusion, that it appears as if some one were speaking within the patient's breast. It has besides one constant character, whence the author calls it

"*la pectoriloquie chevrotante*," which last word we have translated trembling; that is, the voice appears to be tremulous and to issue in successive jerks, like that of a goat. Its pitch also approaches very nearly that of the voice of the same animal.

This kind of trembling appears most frequently to belong to the very articulation of the words; although the voice, as it issues from the patient's mouth, has none of the same character. But sometimes there is a perfect distinction between the resounding voice and the trembling; so that this last seems to take place at a point a little more distant, or a little nearer to the ear of the observer, than that, at which the resounding of voice is perceived. Sometimes even, when the patient speaks his words very slowly and with pauses between them, the tremulous sound is heard immediately after the voice and not with it. These distinctions are important, as they support the belief that the trembling sound may arise from the vibration of some distinct substance, while the resounding of the voice arises from the vibration of the air within the bronchia and air-cells.

In order to distinguish the phenomenon described, it is necessary to apply the cylinder strongly upon the chest of the patient and to place the ear lightly upon the cylinder. If the ear is pressed firmly upon the instrument, the tremulous sound is diminished one half and the phenomenon approaches so much more nearly to the common pectoriloquy.

Mr. L. attributes the egophony to an effusion, within the cavity of the pleura, moderately abundant in quantity. If the quantity of matter effused be very large, the lungs are so compressed that they are not permeable to the air; and then there is not any vibration transmitted to the matter contained in the pleura. If the quantity be very small, the vibration will not be rendered sensible to the observer, not being sufficient to be transmitted through the parietes of the thorax. In support of this explanation he states many facts.

He has observed the egophony only in cases of pleurisy. He attributes it to an effusion, which commonly takes place in this disease; and which is subsequently absorbed. He thinks the egophony must also take place in hydrothorax, but he has not yet noticed it in that disease, and he says distinctly that in confirmed empyema it does not occur. He has observed it in both acute and chronic pleurisy.

In those cases of pleurisy, which he watched from the beginning to the end, he commonly noticed the egophony to take place on the second, third or fourth day; and never until the sound of

respiration had become almost insensible, or entirely so, and the sound upon percussion had become flat on the side affected.

In the decline of the disease the egophony becomes less evident and gradually ceases, all which Mr. L. refers to the absorption of the liquid matter effused. In some acute cases he observed it only for two or three days, during which it was very evident and then it disappeared all at once. In chronic pleurisy he sometimes found it continuing for several months, with some variations in its degree. These variations he attributes to variations in the processes of exhalation and absorption.

In cases of great effusion it has not been possible to discover the egophony; but in the decline of such cases, when a part of the matter effused had been absorbed, he has discovered it. In those cases other signs have shown that absorption was taking place; such as a diminution of volume on the diseased side, which had before been enlarged.

The egophony is heard over a certain extent and is not limited to a single spot as the pectoriloquy is. This serves not only to distinguish the sounds, but also to show a difference in the causes. The egophony is to be perceived in most instances in the space, comprized between the internal edge of the shoulder blade and the vertebral column and in a zone about three fingers in breadth passing from the vertebræ, going round the lower angle of the shoulder-blade, and following the course of the ribs from the middle of the bone last mentioned to the middle of the sternum. The position of the patient will, however, always have an influence as to the part, where this phenomenon will be discovered; and this must happen most readily when the matter effused is perfectly liquid, so that it can change its place at once according to the laws of gravitation.

Mr. L. believes that there are only two cases, in which the egophony will not be discovered, where pleurisy exists. The first is, where there has taken place very suddenly in the commencement of the disease so great an effusion as to compress the lungs very considerably. The second is, where adhesions, formed at some previous time, leave no space for the effusion of matter of any kind. This last will much more frequently be partial than general.

Mr. L. concludes both from his theory and from his observations that the egophony is always a favourable sign; since it shows that a very great effusion has not taken place. We will add that on his theory it always shows that the bronchia and air-cells are free from entire compression by causes existing within the *pleura pulmonalis*, as well as from causes external to

that membrane. For it is necessary to this phenomenon that the bronchia be at least permeable to the air; which they are not, where there is a grave inflammation of the substance of the lungs. If the egophony continues for many days, and even after the acute period of the disease and after the constitutional affection have subsided, it is favorable; since it shows that the effusion is not going on, and that the quantity of matter effused is not too great to be easily removed by the absorbents. In all the instances, in which the author has seen the disease pass from the acute to the chronic state, the egophony has ceased before the febrile symptoms have begun to diminish. He has sometimes known the egophony to be suspended for a time and then to return after coughing, as happens in respect to the pectoriloquy also. This is explained by supposing that some matter within the air passages had obstructed a part for the time and had then been removed by the cough.

It is to be remarked that the author's observations have been on living subjects, with very little confirmation from examinations after death. This happens because patients, who furnish the observations, very seldom die. The occurrence of egophony is favourable, as has been remarked before. It was during a few months, in which pleurisy was epidemic in Paris, that most of Mr. L.'s observations were made.

Such are the remarks and doctrines of our author on a subject certainly of no small interest. It remains for future observation to decide on the value of them. If true, they will undoubtedly aid us in many obscure cases in determining on the nature, the seat and the danger of diseases of the pleura.

We have now gone through the first part of this work, which treats of the signs to be derived from the voice by the use of the stethoscope. The second part treats of the signs derived from examining the respiration by the same instrument. The signs furnished from this source will, says the author, enable us to recognize the existence and extent of most of the organic affections of the thoracic viscera, and particularly of peripneumony, phthisis pulmonalis, œdema and emphysema of the lungs, of the different kinds of tumors and accidental productions developed in the lungs, and of pleurisy, as well as hemoptysis, hydrothorax and pneumo-thorax.

We shall not endeavour to make good as much as the preceding paragraph seems to promise, but shall give such remarks in relation to the subject as seem to us most interesting.

If the stethoscope deprived of its end piece be applied to the breast of a healthy man, there may be heard during expiration and inspiration a light, but very distinct murmur. This mur-

mur may be compared to that of a pair of bellows, the nose of which makes no noise; or more exactly perhaps to that, which may be heard by the naked ear, from a man in a profound but quiet sleep, who now and then makes a full inspiration. This sound may be heard nearly in an equal degree in all parts of the chest; but best in those parts, where there is the least substance interposed between the lungs and the external surface.

It is strongest in the arm-pits and in the space comprehended between the clavicle and the upper edge of the *trapezius* muscle.

This sound is heard equally well over the larynx and the cervical or exposed portion of the trachea; and in many men even through the sternum over the lower part of the trachea. But at the trachea and even at the root of the lungs the sound has a peculiarity, obviously arising from its passing through a large tube instead of the air-cells; and at the trachea during inspiration it often seems as if the patient drew in the air contained in the cylinder, and during expiration as if he threw it out.

In an examination to learn the state of the respiration, we must delay the judgment so long, as the patient is under any degree of agitation from the novelty of the mode of investigation, or from any other cause. It is necessary also that every thing be quiet about the patient, and that both patient and physician be in attitudes free from constraint. This mode of investigation does not require an exposure of the patient's person. The sound will be heard notwithstanding it has to pass through thick garments or a large quantity of adipose substance. But if the garments occasion any rustling noise, as happens when they are of silk, or of certain close-twisted woollen stuffs, the observer will be embarrassed.

A full and slow respiration is not so sonorous through the instrument, as one which is short and quick. In most diseases of the chest, as well as in febrile complaints generally, the respiration is more short, quick and frequent than in health.

Age has a great effect as to the sound from respiration. In children the sound is very loud, and has besides a peculiarity not easy to describe. It seems as if their air-cells underwent a full and entire distension; while in the adult these cells seem not to be more than half distended. The dilatation of the whole breast is also greater in the child than in the adult. The differences continue to be more or less observable till the age of puberty. Under some circumstances the same characteristics attend the respiration at later periods of life. In adults, who breathe slowly and who are not at all subject to difficulties in respiration, the sound through the stethoscope is very slight

and not always easily detected. There are some other exceptions from common rules; but it is necessary to check the disposition we feel to give a minute analysis of this interesting work. One general inference however from a consideration of a variety of cases is adopted by the author nearly in these words, viz. the constitution of the lungs most favourable to health and to long life is that of persons, who require habitually only a moderate dilatation of the lungs, and in whom the respiration is much less noisy than in children.

In speaking of the sound attending respiration, no reference is had to the rattling and wheezing often accompanying dyspnoea. They are to be considered separately. Nor is reference had to a sound which arises from the nasal passages only, that may be heard by the naked ear, and sometimes even at a distance from the patient; but to that communicated through the stethoscope placed on the thorax.

If the sound be heard equally, or nearly so in examining every part of the chest, we may infer that there is a freedom from all disease within; but if it be not heard in any one part, we must infer that the corresponding portion of the lungs is impermeable to the air. The causes, which may render it so, are various. In such a case the part will give a flat sound upon percussion. The exceptions to this remark are rare. It is obvious that there would be such an exception in a case of pneumo-thorax.

The 11. chapter of part II. of this work is on *peripneumony*, a disease so often fatal. The 1st article of this chapter is on the *anatomical characters of this disease*, and we have never seen them so well and distinctly stated.

The author says that peripneumony is an inflammation of the pulmonic texture; we should say of the cellular membrane of the lungs. Considered anatomically, he says, this disease exists in three degrees well marked and easily recognized.

In the first the lung is more heavy and much more firm than in its natural state, and has externally a livid or violet colour. It crepitates however, when handled; but on pressing it between the thumb and finger, one feels that some liquid has been effused within it and that the crepitation is much less than in a healthy lung. When divided by the scalpel its surface is found to be of a livid red colour, and there flows from it an abundance of thin fluid, which is bloody, frothy and turbid. Meanwhile one distinguishes perfectly well the alveolar or spongy texture of the lungs. This state has been denominated by Mr. Bayle (author of a very learned treatise on *phthisis pulmonalis*) an *engorgement*.

In the second degree the diseased lung does not crepitate at all upon pressure, and in weight and firmness it resembles the liver. Hence, this morbid change has been denominated *hepatization* or *carnification* of the lungs. The first of these terms is preferred by the author; there is another state of the lungs, to which he considers the last as more applicable.

In this degree of inflammation the lungs are often less livid externally, than in the first. But the divided surface is more or less deeply red, and upon it are seen in a very distinct manner spots formed by the black pulmonary matter, (of which the source is unknown, but which is often seen in disease and more or less even in healthy, old subjects,) also the divided ends of the branches of the bronchia and of the bloodvessels, and the fine cellular partitions which divide the lungs into masses of unequal sizes. These membranous partitions are scarcely to be perceived in sound lungs, but are easily recognized in this state; and the more easily because their extreme vessels do not partake of the general distention, so that they present a white edge amidst the red substance.

On dividing the lungs in this state there is not seen any, or only a very little, fluid issuing from them; but on scraping them, one may press a small quantity of bloody fluid like that described above, except that it is more turbid; and in this may often be distinguished some matter more thick, opaque, white and puriform.

If the lungs be cut into in this state of disease and the divided surface be held opposite to the light, it is found that the cellular structure is lost, and there is presented a granulated appearance.

When a whole lung is hepatized, it appears to the eye to be enlarged. But Mr. L. says on careful measurement, made in different ways, he finds this not to be the case. A lung containing air flattens when the thorax is opened. In this case it does not and hence the deception.

In the third degree of inflammation there are discovered the same hardness and granulated appearance described above. But the parts are of a pale yellow and somewhat of a straw-colour; and when divided there flows out, more or less abundantly, a matter, which is yellow, opaque, viscous and evidently purulent, and of a faint odour; being less offensive in this respect than the pus of an open ulcer.

This state is, properly speaking, a suppuration of the lungs. For large collections of pus in the lungs, often called *vomicæ*, are very rare; notwithstanding they have been thought to occur frequently both by ancient and modern physicians. Suppuration

in the cellular membrane of the lungs is commonly much like that in the honeycomb abscesses, which we occasionally see immediately under the integuments.

Lastly inflammation may exist in these three degrees, or in two of them, in the same subject. It is obvious that the difference among them is referable principally to a difference in the degree of violence and to difference of duration in the disease. But, besides, the first degree appears to us to be that, in which the mucous membrane takes a part; and when this membrane goes through the suppurative process, the cellular membrane is relieved. Of this kind are the common cases of peripneumony, which are relieved by expectoration.

Acute inflammation affects the inferior portion of the lungs in most instances; and when it extends to the whole on one side, it commences in the lower part and is most severe there. On this point, as well as on many others, our own observations are in perfect accordance with Mr. Laennec's.

The second article of this chapter is on the signs of peripneumony. Difficulty of respiration, a deep seated pain in the side affected, an inability of lying on the sound side, fever, cough an expectoration of a viscous matter, sometimes with a mixture of blood, urine of a deep red colour,—these are the symptoms enumerated by Mr. L. as those commonly ascribed to this disease. Yet he says not one of them is constant even in severe peripneumony; and they may all occur in many other diseases.

Percussion of the chest is a very sure method of deciding respecting the existence of this disease in a large proportion of cases; but from many causes this cannot always be relied on. This is not true, as thinks Mr. L., in regard to the stethoscope. This will indicate the existence and almost the precise degree of inflammation in the lungs.

In the first degree of peripneumony the respiration may be heard through the instrument on the parts affected; but it is smaller and less sonorous than on other parts of the thorax. It is also accompanied especially during inspiration, by a kind of crepitation or light rattle, the noise of which may be compared to that of salt heated in a basin. The author calls this the *crepitating rattle*, and considers it the pathognomonic sign of peripneumony in the first degree.

This disease in its second and third degrees, may be recognized by the total absence of noise produced by respiration. Even upon a strong inspiration nothing is heard through the instrument. But though the noise of respiration is not to be heard, a mucous rattling, various in degree, may sometimes be heard. This happens when a pulmonic catarrh accompanies the peri-

pneumony; or when the glutinous and tenacious matter, which had been thrown up at first, has become changed to matter better concocted.

In all degrees of the disease the respiration may become *puerile*, or like that of children, in the sound parts of the lungs even in adults.

During the decline of the disease, in the favourable cases, the progress of amendment may be very exactly traced by the stethoscope; and this both sooner and with more precision than can be done by percussion. The use of the instrument will also save us from being deceived by some false appearances of convalescence, which often occur in this disease.

Notwithstanding the great advantages of percussion in peripneumony, Mr. L. endeavours to show that in a variety of cases the stethoscope deserves to be much more relied upon. Many observations follow on the two modes of investigation worthy attention from all, who practice them. He appreciates very highly the advantages of percussion, and gives many valuable directions respecting the practice of it.

The third article of this chapter is on gangrene of the lungs. It is long and very interesting; but as this is a rare affection, we pass it over.

Chapter III. of part II. is on the *emphysema of the lungs*. We must neglect this for matters more important. Chapter IV. is on *accidental productions developed in the lungs*. We shall notice only the fifth article of this chapter, in which the author gives a description of the disease called *melanosis* of the lungs.

The name *melanosis* has been given to a peculiar black matter deposited sometimes in cysts, sometimes apparently without any cysts, in various parts of the body. By the article under this term in the *Dictionnaire des Sciences Medicales*, vol. 32. it appears that this disease was brought into public notice by Mr. Bayle and Mr. Laennec, from whom it received its name. It has, however, since been observed by various anatomists and physicians. As it has not been noticed, so far as we recollect, by any writer in our own country, we are induced to give a fuller account of it, than its relative importance in the work before us would otherwise justify.

In their crude state, *melanoses* have a firmness of consistence equal to that of the lymphatic glands, a deep, black colour, and a texture which is homogeneous, a little humid and opaque. In this respect of texture, as well as in consistence, they appear much like the lymphatic glands. In common with various other morbid productions originally solid, they have a tendency to become soft; and when they have begun this change, there may

be pressed out of them a thin, reddish liquid, mixed with minute, black, or dark-coloured clots, which are in some instances firm, in others friable; but which, even when friable, have yet to the touch the appearance of flaccidity. In a more advanced stage of the process of softening, these clots, and indeed the whole mass to which they belong, become friable, and shortly the whole is changed into a sort of black pap.

Melanoses may exist in four different states, viz: 1st, under that of masses enclosed in cysts; 2d, under that of masses destitute of cysts; 3d, under that of an infiltration into the texture of some organ; 4th, under that of matter deposited on the surface of an organ.

1st. *Encysted Melanoses*.—These are rounded, though not quite regularly so; in volume they vary from that of a small filbert to that of a nut, so far as Mr. Laennec has seen them; and in thickness they are about half a line. The cellular texture is the only element which appears to enter into their composition. They adhere by a very fine cellular texture to the organ, in which they are developed, and may easily be separated by dissection. The internal surface of the cysts is smooth, yet it adheres to the matter contained. The adhesion seems to take place by the medium of an imperfect cellular texture, which however is extremely fine and cannot always be distinguished, especially when the contained matter has become at all soft.

Mr. Laennec has hitherto found encysted melanoses only in the liver and the lungs; and he has seen only one such mass in the lungs.

2d. *Melanoses destitute of cysts*.—These are much less rare than the first sort. Mr. Laennec has seen them in the lungs, liver, pituitary gland, and nerves.

The size of these melanoses is very various. They appear in masses from the size of a millet seed to that of an egg, and perhaps much larger. They are also very irregular in shape. They commonly adhere very closely to the parts in which they are developed; yet sometimes they are united to the parts around them by a very fine cellular membrane, so that they may be taken away without injuring the texture of those parts. In this last case they usually assume a round form.

3d. *An infiltration of some organ by the matter of melanosis*. Instead of being collected in masses, this matter is often found disseminated in the texture of an organ and occupying the natural interstices. In the aspect and colour of an organ thus affected there is great variety. This depends on the texture of the organ, on the quantity of the morbid matter deposited, and on the state of softness or of crudity, in which this matter is found. When the

infiltration is in small quantity, there are to be seen only small black points, or streaks, mixed in with the natural texture of the organ. But in proportion as the disease has made progress, or the matter has accumulated, the natural texture is diminished; and presently this disappears entirely.

It is not commonly till this period that the matter of the melanoses begins to grow soft. But if this change commence, before the destruction and absorption of the ancient texture have been completed, it often happens that this texture itself becomes soft and mixes with the matter of the melanoses. The whole then assumes a brown, yellow, or grey colour.

4th. *A deposit of the matter of melanoses on the surface of an organ.*—This is not particularly described by the author; but we understand that it is principally on serous membranes, that this deposit is found.

The existence of this organic affection is not very easily ascertained during life. Effects are produced on the functions, but they are such as are produced by other causes, and therefore do not easily lead us to suspect the disease. When the matter of the melanoses has accumulated in considerable quantity, it very commonly occasions a gradual diminution of strength and of flesh, anasarca and often a dropsy of the serous membranes. Febrile affections do not occur, or not in any considerable force. At least such have been the remarks of Mr. Laennec, and they are confirmed by two cases recorded by Mr. Bayle.

The local effects will depend on the organ, in which the matter has accumulated. They will consist in the interruption and embarrassments of the functions of that organ. Thus in the lungs there will be a dyspnoea proportioned to the quantity of matter deposited, and a cough. The cough is often dry, sometimes accompanied by an expectoration of mucus, and this will have some mixture of puriform matter.

When the melanoses of the lungs become softened, the matter may be evacuated through the bronchia. Then excavations will be formed similar to those in cases of tubercles. In such cases pectoriloquy would take place. But Mr. Laennec has never seen such cases, though Mr. Bayle has. But this occurred before the stethoscope was invented.

Mr. Laennec considers the lungs as less liable, than some other organs, to the formation of melanosis. Others, and particularly Mr. Bayle, have thought otherwise. But Mr. Laennec believes that they have confounded with the matter of melanoses the black matter of the lungs, which appears more or less in health, and is accumulating as we advance in life. He then goes into a detailed description of the difference between these two kinds of

matter. But we must refer to the work itself for the distinctions he has pointed out.

Chapter V. is on pleurisy. On this subject we must make a very few remarks. The author states that in general, when the pleura is inflamed, there is effused a matter, (coagulable lymph as we conceive) which forms a false membrane, and a fluid which is serous, or sero-purulent. In certain cases this matter is bloody. In some cases the false membrane is detached and is found in portions larger or smaller in the cavity of the pleura. In some cases of acute pleurisy, and in a larger proportion of chronic pleurisy, the quantity of fluid becomes very considerable. Various other effects are also found after death, to have arisen from inflammation of the pleura. Among others gangrene is sometimes seen. But this he has never seen to arise from the violence of an acute inflammation. On this point we have to remark, that two such cases have occurred under our observation. For one see the 2d volume of this Journal, page 158. The other was that of a boy about seven years of age. The disease was extremely violent in all its symptoms, and was not at all relieved by the usual treatment. After death the pleura of the whole of the right side had the marks of great inflammation, it was covered by a false membrane, it contained a bloody, sero-purulent fluid, and in one part it was decidedly gangrenous. The odour, upon laying open the thorax, was very unpleasant.

Chapter VI. of the second part, is on "*dropsy of the pleura*," commonly called hydrothorax, or dropsy of the chest.

Idiopathic dropsy of the chest is a most rare disease. It is not to be found in more than one dead body in two thousand, says Mr. Laennec, and we are disposed to think his estimate is correct. Many other diseases have been mistaken for it, as Mr. Corvisart has shown. Not only organic diseases of the thoracic, but those also of the abdominal viscera have passed under this name. Empyema, or a collection of sero-purulent matter in chronic pleurisy, has been called hydrothorax.

The anatomical character of this disease, according to Mr. Laennec, is an accumulation of a transparent, watery fluid, in greater or less quantity, in the cavity of the pleura, which membrane itself is without organic change; meanwhile the lung is crowded up against the mediastinum, it is flaccid in its texture, and is destitute of air. This affection is commonly confined to one side.

When the effusion is very considerable, the side affected is visibly dilated. The disease may exist to this degree without an hydropic affection of any other part.

The principal symptom of this disease is difficulty of breathing. By percussion we find the sound to be flat; and by the stethoscope the noise of respiration can be discovered only at the root of the lungs. The general symptoms and the progress and course of the disease can alone distinguish it from chronic pleurisy. In short, however great the difference is between a violent, acute pleurisy, with serous effusion, and a case of hydrothorax in which there is no pain during life, and in which the pleura appears to be perfectly sound after death, yet we feel persuaded that the difference is only in degree. In both cases there is inflammation of the serous membrane.

To this result, at which we have in common with many others long since arrived, Mr. Laennec seems ready to come. Yet he is averse to doing so, obviously from the fear that such an opinion will have an undue effect upon the treatment. Such effect it may have with those, who do not employ the term inflammation in a philosophical sense; but who understand by it only a violent and acute disease, which under all circumstances demands profuse evacuations. But we believe among the English and among us this term is not restricted to such narrow limits, and that our therapeutics will not suffer by establishing a just and true pathology.

While idiopathic hydrothorax is very rare, the symptomatic is very common. It occurs in acute and chronic, in general and in local diseases. It follows dropsical affections of other parts, acute idiopathic fevers, diseases of the heart, and tuberculous and cancerous diseases of diverse organs. The symptoms of this affection do not commonly show themselves, according to Mr. Laennec, until within a few days and even within a few hours before death. We think however, that in many cases, and especially in organic diseases of the heart, these symptoms often appear and are removed several times before death; and sometimes the hydrothorax does not recur at the time of death. Mr. Laennec remarks very truly that water is found in the chest after death in some cases, in which there had been no symptoms of it during life; and suggests that this effusion may very possibly have taken place after general death.

The author gives some very interesting remarks on cancerous and tuberculous affections of the pleura. Respecting the last, he says that they seem to be formed, not in the pleura itself, but in a false membrane formed upon it; and that eventually the membrane becomes so united with the pleura, as to give to this the appearance of being thickened. If this be confirmed by others, it may lead to an inquiry whether tubercles are formed in the same way in parts of other structures.

Chapter VII. is upon effusions of blood into the cavity of the pleura. The various causes of such effusions are stated. The accident is not easily to be distinguished during life from serous, or sero-purulent effusions.

We must pass over chapter VIII. on accidental productions and other solid bodies in the cavity of the pleura.

Chapter IX. is on pneumo-thorax, or the effusion of air into the cavity above named. This subject is discussed by the author with his usual ability, and the various sources of the air discussed. We shall give, however, only one remark on the subject. This is, that while percussion will occasion a resounding in this disease, and thus lead to an opinion that the lungs are in a natural state; the stethoscope will discover that the lung is not permeable to the air. It is important to notice this, as the trial by percussion alone may lead to a belief of amendment, while the case has really grown worse. This we have known to happen.

We have thus gone through the first volume of this work. The remarks, which we have given, are quoted from the work, and in many cases are translations, except where the expressions employed show them to be our own. We value the book so highly that we should be disposed to promote the translation of it in this country, had we not received an intimation that this has been undertaken in London. We hope soon to have this intimation confirmed.

In respect to the use of the stethoscope, however, we are not prepared to give an opinion. The author allows that it is only by experience one can learn to make all the distinctions he has pointed out; and in private practice it must take a long while to acquire this experience.

The review of the second volume will be given in the next number of this Journal.

ARTICLE IV.

American Medical Botany, being a collection of the native medicinal plants of the United States, containing their botanical history and chemical analysis, and properties and uses in medicine, diet and the arts, with coloured engravings. By JACOB BIGELOW, M.D. Rumford Professor, and Professor of Materia Medica and Botany in Harvard University.

THE natural riches of our country are especially displayed in its vegetable productions. The various plants derived from the regions of our new world, have already done much towards the enlargement of the materia medica; and we have good reasons to be sanguine in our expectations that the future will bring to it from the same source, numerous and valuable acquisitions. Though so much has been said with regard to our present number of medicinal articles, still many are needed, and will be whilst the human frame is subject to disease.

That, as some suppose, there are vegetable substances the produce of our own soil, whose medicinal virtues are adequate to the removal of every malady to which its inhabitants are liable, seems too much to admit; but that there are many which flourish unregarded, whose properties have power to alleviate or remove some of our most troublesome, and we will venture to add, dangerous diseases, we are much inclined to believe. This consideration then alone ought to be a sufficient inducement for a careful and diligent investigation of the products of our soil.

Those who labour to find out the various properties of our vegetable kingdom, by thus bringing to light the hidden treasures of our country, not only increase its resources, and of consequence its independence, but they subserve the cause of humanity, either by supplying the wants, or administering to the infirmities of their fellow creatures. Such labourers then, not only deserve the gratitude of a nation, but of the human race.

America has long been obliged to look to foreigners instead of its own citizens for the knowledge of her natural productions. In future, may the latter, in every department of natural science, imitating the example before us, contribute their labours to do away this reproach on national character.

The employment of the different articles of medicine depends much on fashion and much on accident. Numerous medicinal vegetables which we yearly import in large quantities from foreign nations, possess, even in an inferior degree, the same properties

of many which grow on our own hills and flourish in our own valleys. "Medicinal substances," says the author in his preface to the work, now before us, "frequently owe their first introduction to accident. Many have been at first brought up as antidotes for the poison of serpents, as remedies for syphilis, or as specifics against imaginary diseases. Previously to this, they were neglected as useless, or avoided as dangerous. It is a subject of some curiosity to consider, if the knowledge of the present *Materia Medica* were by any means to be lost, how many of the same articles would again rise into notice and use. Doubtless a variety of new substances would develop unexpected powers, while perhaps the poppy would be shunned as a deleterious plant, and the cinchona might grow unmolested upon the mountains of Quito."

This work is published in six half volumes, each containing the history of ten different plants, with a coloured engraving and botanical dissection of each. The description of every plant includes its botanical character, its places of growth and times of flowering, its chemical analysis and its medicinal and other uses. At the end of every article are full botanical and medical references; notes at the close of each volume, and at the end of the work an appendix containing such facts relative to the different subjects treated of, as were discovered after their publication.

The various articles contained in this work possess, in a greater or less degree, the properties of the medicines belonging to nearly all the different classes of the *materia medica*. Many of these too are very active medicines, and have already acquired much deserved reputation. We shall proceed now to notice a few of them under their different classes.

Emetics—Phytolacca Decandra.—The soluble portion of the root of this plant, which is the part used in medicine, from chemical trials made with it by the author, appears neither to be a mucous nor a resinous substance, but seems to possess properties somewhat peculiar to itself. Differing from common vegetable extractive, especially in not being precipitated by the oxymuriatic or other mineral acids, and by being but slightly affected by the muriate of tin.

"In its medicinal properties," says the author, "the root of the *phytolacca decandra* approaches nearer to *ipecacuanha* than any American vegetable I have hitherto examined. From abundant experience, the result of many trials made in dispensary practice, I am satisfied that, when properly prepared, it operates in the same doses and with the same certainty, as the South American emetic. Ten grains of the powder will rarely remain

on the stomach, and twenty or thirty produce a powerful operation by emesis and catharsis. In its mode of operation, this medicine has some peculiarities, a part of which are favourable, others disadvantageous." The advantages of this substance as an emetic stated are, that it operates with ease and seldom produces cramp; but on the other hand it is slow in its operation, and continues to operate much longer than other emetics. But it is stated that this long continued action may be readily checked by an opiate. The author says, however, that he has repeatedly known it to begin to operate in fifteen minutes, and cease after four or five ejections. Nor does he suppose, as has been believed, that the sensation from its action is more unpleasant than that from other emetics. Experiments on the emetic properties of the *phytolacca decandra* made by Dr. George Hayward, have also showed it to operate, sometimes at least, very favourably.

The author in his appendix to this work observes, "It has been already stated that the inconveniences in the emetic operation of this plant are its slow commencement, long continuance, and occasional narcotic effect. I have since writing the article, become acquainted with instances of hypercatharsis, following the employment of this medicine in large doses." "In a few instances I have known a decided effect take place on the retina, producing blindness for two or three hours. In general it may be considered improper to give large quantities of this medicine, or to accumulate it by the repetition of small quantities. In these respects it has not the safety of the officinal *Ipecacuanha*."

Veratrum viride.—The experiments made by Dr. J. Ware, which are related, show that this article when given in doses of about six grains, produces pretty certain and very thorough emesis. It was also used by the same gentleman with much advantage as a local application in a number of cutaneous affections. The author considers this a plant of great activity, and to resemble very nearly in its properties the *veratrum album*, and that like this last it is capable of giving relief in paroxysms of gout and rheumatism.

Euphorbia Ipecacuanha.—"From the specific name given to this vegetable," says the author, "we infer that before the true origin of the officinal *ipecacuanha* was known, this plant, among others, was for a time considered the source of that drug. The *Pharmacopœia Danica* was one of the works in which this reference was made, and Linnæus undoubtedly paid some respect to the opinion in assigning the specific name." From chemical experiments made with the root, it is shown to contain caoutchouc, resin, mucus, and probably *fecula*.

The conclusion which the author draws from his own, and the experiments made by other physicians is, "That the *Euphorbia ipecacuanha* in doses of from ten to twenty grains is both an emetic and cathartic; that it is more active than *ipecacuanha* in proportion to the number of grains administered; that in small doses, it operates with as much ease as most emetics, in a majority of instances. If it fails, however, at first, it is not so safely repeated as the other emetics in common use. Given in large doses it excites active and long continued vomiting, attended with a sense of heat, vertigo, indistinct vision, and prostration of strength." "The plant appears to differ, from the South American *ipecacuanha* in having the degree of its operation proportionate to the quantity taken, the process of vomiting not being checked by the powder being thrown off of the stomach, as frequently happens, when common *ipecac.* is given in large doses."

Among the cathartics we have the *Podophyllum peltatum*, the root of which plant, when given in powder in a dose of about twenty grains, is stated to operate as a sure, mild, and efficacious cathartic. The author considers it as deserving of high rank among our indigenous productions, and as answering better the common purposes of aloes, rhubarb and jalap, than almost any of our native plants, at the same time, that it is more mild and safe in its operation than these.

Juglans Cinerea.—"From many trials," says the author, "which I have made with this medicine, it appears to me to possess the qualities of an useful and innocent laxative. When fresh and properly prepared, it is very certain in its effect, and leaves the bowels in a good state. In cases of habitual costiveness, it is to be preferred to more stimulating cathartics, and many persons whose state of health has rendered them dependent on the use of laxative medicines, have given this the preference after the trial of a variety of other medicines."

Narcotics.—The *Datura Stramonium* was introduced as a remedy in mania, epilepsy, convulsions, &c. with very various success. The author found it to afford decided relief, given in as large doses as the stomach would bear, in a case of tic douloureux of long standing. It is stated, also, to have attracted much notice as a palliative in asthma and some other affections of the lungs, when used, like tobacco, by smoking. The author observes that it would not be difficult to designate a dozen individuals in and about Boston, who are in the habit of using it with constant relief in paroxysms of asthma. "The cases," he observes, "which it is fitted to relieve, are those of pure spasmodic asthma, in which it doubtless acts by its sedative and antispasmodic effects. In those depending upon effusion of serum in the

lungs, or upon the presence of exciting causes in the first passages, or elsewhere, requiring to be removed; it must not be expected that remedies of this class can afford benefit. In several cases of plethoric and intemperate people, I have found it fail altogether, and venesection afterwards to give speedy relief."

There are a number of other complaints, also, in which Dr. Marcet, and Dr. Chapman are stated to have found this article of much service. The author has likewise, found it useful as a local application to irritable ulcers with thickened edges, and a sanious discharge, and an ointment made from it and combined with that of acetate of lead, a very excellent application to painful hemorrhoidal tumours.

From the result of the chemical experiments instituted, the medicinal virtues of the *Datura Stramonium* are supposed to reside in an extractive principle, which is capable of being dissolved both by water and alcohol; but more readily by the former.

Conium Maculatum.—"Were it not," says the author, "for the tranquillity and ease which attended death from the ancient hemlock, and which Plato has described with interesting minuteness, there would not have been much difficulty in supposing the Grecian plant to be the same with that known at the present day. It appears that a large quantity was requisite to insure death. The poison was swallowed in the crude juice, recently expressed from the plant. Of this the draught taken by Phocion was large enough to cost twelve drachmæ. Socrates was prevented from making a libation of a part of the contents of his fatal cup, by being told that the whole was necessary to produce the consummation of his sentence. A large quantity of the modern hemlock might probably have been equally fatal, though with more violent symptoms than those which, if Plato be correct, were experienced by the Athenian philosopher." The complaints in which the hemlock is stated to have been most employed are jaundice, tic douloureux, and schirrus and cancer, and in the two first with much advantage.

The *Hyoscyamus niger* is thought to be an imported plant. It is used principally as a substitute for opium, and sometimes answers very well. The author, however, considers it a medicine rather to be resorted to after the failure of opium than in the first instance.

The *Nicotiana tabacum* is another narcotic medicine, and of this article we have a very full and interesting account.

Belonging to the class of astringent medicines we have the *Geranium maculatum*. The author's chemical trials with the root of this plant, the part of it medicinally employed, indicate

the presence of gallic acid, and tannin, this last in large proportion, appearing considerably to exceed that in the Kino of the shops. The author says he has found it useful in many cases where astringents were capable of rendering service. He states it to be particularly suited to such discharges as continue from debility after their cause is removed. The tinct. is recommended as an excellent local application in ulcerations of the mouth, and in sore throats.

Statice Caroliniana.—"The root," says the author, "which is the officinal part of the Marsh Rosemary, is one of the most intense and powerful astringents in the vegetable materia medica. It communicates to the mouth an highly austere and astringent taste, combined with a good deal of bitterness. Few vegetable substances when chemically treated, give more distinct and copious evidence of the presence of both tannin and gallic acid." Dr. Mott is stated to have found its astringency fully equal to that of galls. It is said to have much reputation as an astringent medicine, and to be in much use throughout the United States.

The *Arbutus Uva ursi* possesses a good deal of astringent power. It has received its principal reputation, however, from its supposed efficacy in nephritic and calculous complaints. From various testimonies concerning the virtues of this article in these cases, the author comes to the following conclusion. "We are not warranted in believing it to possess any real lithontriptic power. At the same time it undoubtedly proves a palliative for calculous symptoms in many cases." He observes, "I have repeatedly watched its effects in paroxysms of nephritis, brought on by gravelly concretions, and am on the whole inclined to believe in its tendency to allay sensibility in these cases, and to hasten the relief of the symptoms. It ought generally to be preceded by evacuations, and may be advantageously accompanied with opium. In cases of dysury arising from a variety of causes, I have given the decoction of this plant with very satisfactory success in repeated instances."

The *Rubus villosus* is stated to be a very powerful vegetable astringent.

Tonics.—The *Menianthes trifoliata*, *humulus lupulus*, *eupatorium perfoliatum*, *coptis trifolia*, *cornus florida*, *gentiana catesbaei*, *sabbotia angularis*, *liriodendron tulipifera*, and *magnolia glauca*, are all valuable tonics, corresponding in their operation with the quassia, gentian, cascarilla, &c., and where bitters are indicated, would undoubtedly answer as good a purpose as these.

The *Ictodes fœtidus*, the name given by our author to the common skunk cabbage, is an acrid stimulant, and has been found serviceable as an antispasmodic, operating like the assafoetida,

and the other foetid gums. We have also a number of valuable authorities quoted to show the benefit derived from this article in asthma.

Diaphoretics—Aristolochia Serpentaria.—"Medicinally considered," says the author, "Serpentaria is a tonic, diaphoretic, and in certain cases an antispasmodic and anodyne. It has been abundantly used in fevers of various descriptions, and has been commended by a host of medical writers. There is no doubt that it has been injudiciously employed in many cases, in fever attended with an active pulse and inflammatory diathesis. The early stages, also, of febrile diseases rarely admit the exhibition of so decided a stimulant, without injury. But in the advanced stages of fever and those attended with typhoidal symptoms, this medicine is resorted to with great advantage, both alone and in combination with other tonics and stimulants. It is peculiarly useful in supporting the strength, and in allaying the irregular actions which attend great febrile debility, such as subsultus tendinum, delirium, watchfulness, &c.

The *Xanthoxylum fraxineum*, or Prickly ash, is stated to have acquired much reputation in the United States as a remedy in chronic rheumatism; seeming to operate like the mezereon and guaiacum. "I have given the powdered bark," says the author, "in doses of ten and twenty grains in rheumatic affections with considerable benefit. A sense of heat was produced at the stomach by taking it, but no other obvious effect. In one case it effectually removed the complaint in a few days. I have known it, however, to fail entirely in obstinate cases, sharing the opprobrium of failure with a variety of other remedies."

Diuretics—Juniperus Communis and Pyrola Umbellata.—This last is stated on different authorities to have acquired reputation as a palliative in strangury and nephritis. The following are the author's remarks relating to it. "Dr. Wolf the German writer, has reported a number of cases of ischuria and dysuria, arising from various causes, in which the pyrola, given in infusion, produced the most evident relief, and took precedence of a variety of remedies which had been tried. His method of administering it, was to give a table spoonful of a strong infusion, with a little syrup, every hour. In all the cases he has detailed, small as the dose was, it gave relief in a very short time. In one case its effect was so distinctly marked, that the disease returned whenever the medicine was omitted and was removed on resuming its use. A tonic operation attended its other effects, so that the appetite was improved and digestion promoted during the period of its employment."

"The diuretic properties of the *Pyrola Umbellata*, seem to have been fully illustrated by Dr. W. Somerville in a paper on this vegetable, published in the 5th volume of the London Medico-Chirurgical Transactions. The facts presented by this physician afford satisfactory evidence of the power of this medicine to promote the renal excretion, and to afford relief to patients afflicted with dropsy in its various forms. The most distinguished case presented by him, is that of Sir James Craig, the British Governour in Canada, who was labouring under a general dropsy, which in its progress had assumed the forms of hydrothorax, anasarca and ascites, and which was combined with different organic diseases, especially of the liver. After having tried with little or temporary success, almost every variety of diuretic and cathartic medicines, and submitted twice to the operation of tapping, the patient had recourse to a strong infusion of the pyrola, in the quantity of a pint every twenty-four hours. Although the case was altogether an unpromising one, yet the plant gave relief, not only in the first, but in the subsequent instances of its use. It increased the urinal discharge, and at the same time produced an augmentation of strength and an invigorated appetite.

"I have administered this plant on various occasions, and attended to its mode of operation. In a number of dropsical cases, when first given, it made a distinct and evident impression on the disease, communicating an increased activity to the absorbents, followed by a great augmentation of the excretion from the kidneys. The benefit, however, with me has been in most instances temporary, and it was found better to omit the medicine for a time and to resume it afresh, than to continue it until the system had become insensible to its stimulus. After suspending it for a week or two, the same distinct operation took place on returning to its use, as had been manifested in the first instance. It proved in almost every instance a very acceptable medicine to the patient, and was preferred both for its sensible qualities and its effects on the stomach, to other diuretics and alteratives which had been prescribed."

Expectorants.—*Polygala Senega* and *Asclepias Tuberosa*.—Of the butterfly weed the author observes. "I am satisfied of its utility as an expectorant medicine, and have seen no inconsiderable benefit arise from its use as a palliative in phthisis pulmonalis. Among other instances may be cited that of a young physician in this town, who died two years since of pulmonary consumption. He made great use of the decoction of this root, and persevered in it a long time from choice, finding that it facilitated expectoration and relieved the dyspnœa and pain in the chest, more than any other medicine."

As a *Demulcent* we have the *Panax Quinquifolium*.

Anthelmintics.—The *Spigelia Marilandica*, as is well known, is in much use throughout the United States as a remedy for worms.

External Stimulants.—The *Juniperus Virginiana* possesses properties similar to the Savin; and when formed into a cerate, is also used for the purpose of keeping up a discharge from a blistered surface, which it does very effectually. The *Rhus Vernix* and *Rhus Radicans*, also, give rise, in certain constitutions, to a very peculiar and unpleasant cutaneous affection.

We have thus given a brief notice of some of the articles treated of in this work. We have, however, necessarily omitted many substances of much interest both to the botanist and physician.

In our review of this work we have endeavoured to notice those plants which seem to possess most medicinal value, believing that in these the readers of this journal will feel the greatest interest. In noticing the different articles, too, we have, for the like reason, regarded them principally in a medical point of view.

The author has given an analysis of the different vegetables described. Although the principal ingredients entering into the ultimate composition of vegetable substances are but few, yet the various proportions, and different modes of combination of these, give rise to a great variety of proximate principles. Now it is undoubtedly upon these principles themselves, and the different way in which they are combined, that the medicinal virtues of a plant depend. A knowledge of the proximate principles of vegetables is even now of much utility in their pharmaceutic treatment. How much, at some future period, our judgment as it regards the medicinal employment of vegetable substances, may be aided by their chemical analysis, it is impossible for us to say. At present we can at best have but a very imperfect analysis of a plant. We may discover a few of its proximate principles, but a knowledge of the whole, our small progress in the chemistry of organized bodies will not permit us to gain. Perhaps in the lapse of time we may have made such advances in chemical science as to be enabled to discover all the medicinal properties of a vegetable by its bare analysis, so that instead of owing our knowledge of its virtues, as we are now too often compelled to do, to the sufferings of living beings, we shall gain it from the labours of the chemist.

The author besides admitting into his work the experiments and practical deductions from them, of many distinguished authorities, has himself experimented upon the medicinal properties of the different articles; and he has thus enabled himself to distinguish substances of real utility from such as either on account of accidental circumstances, or from injudicious and ill conducted experiments, possess an unmerited reputation.

The plates represent accurately the plants intended. These with the accompanying descriptions will enable the country practitioner, at once to recognise many of the plants which grow about him of the greatest medicinal value, and the work will instruct him in their various properties, and the different diseases in which they may be most successfully employed.

In our analysis we have dwelt more particularly on those articles of which a favourable account is given as to their medical powers. The object in doing this was to bring them distinctly into view, and to solicit for them a fair trial. Professor Bigelow has always qualified his recommendation, when necessary, and thus placed a very proper limit to the confidence which may arise in regard to the medicinal properties of the plants he has treated of. In offering this analysis we have performed a duty we owed our readers. The reasons are obvious why we have abstained alike from censure and commendation.

ARTICLE V.

Sailor's Physician, exhibiting the symptoms, causes and treatment of Diseases, incident to seamen and passengers in merchant vessels; with directions for preserving their health in sickly climates: intended to afford medical advice to such persons while at sea, where a Physician cannot be consulted. By USHER PARSONS, M.D. Fellow of the Massachusetts Medical Society and Surgeon in United States Navy. Cambridge: Hilliard & Metcalf, 1820. p. 204.

EVERY physician, who is conversant with the lower departments of practice in large maritime towns, or has attended hospitals where sailors are frequently admitted as patients, must have met with many cases of incurable disease originating in some complaint with which the patient has been attacked while at sea, a complaint that might have been easily and completely removed at first, but has become, from want of remedies—or more frequently from their injudicious application—wholly without the controul of medicine, and leaves the unfortunate subject a cripple or an invalid, the inhabitant for life of an almshouse or hospital. How many do we meet, whose joints are benumbed by rheumatism, whose limbs are distorted from unreduced luxation or fracture, eyes destroyed by inflammation, or

features disfigured by the effects of syphilis, all of whom date the commencement of their disease at a period when they were at sea, out of the reach of medical aid, and receiving only such assistance as could be afforded by the captain of a merchant vessel, with the help of a half-furnished medicine chest, and a system of nautical practice contained in a pamphlet of a dozen pages. It is not, probably, *very* often that lives are lost in this way, but this must sometimes happen; and it is no trifling evil for a man, in the prime of life, to be cut down by disease and forced to drag through the world a maimed or disordered body. When it is reflected how large a proportion of their time sailors spend at sea, and of course out of the reach of medical assistance, it is obvious how many individuals must suffer more or less for the want of that assistance; especially as they are then more particularly exposed to the influence of the causes that produce those severe and acute affections which need, and are most evidently benefited, by the operation of medical remedies.

"For the want of a few simple directions for setting broken bones," says Dr. Parsons, "and reducing dislocations, sailors are often crippled for life; often the company of transport ships are swept off by the malignant diseases of sickly climates, that might have been arrested at the very onset; and there is scarce a marine hospital in the country, that does not exhibit noseless faces and mutilated bodies, the sad vestiges of a long protracted disease, which, with suitable instruction, the patient himself might have removed with the greatest facility. These considerations, and a fear that the subject will continue to be neglected by those who are better qualified for writing upon it, have induced me to put together the substance of the following pages." p. 10.

The same objections certainly do not lie against a work of the kind which Dr. Parsons has offered to the public, as against those innumerable compends for the use of individuals and families with which the profession and society at large have been always annoyed. It is not because they diminish the extent or the profits of medical business, that we object to books of this character; they have no such tendency. We object to them, because they are in spirit and in effect pieces of quackery, calculated to diffuse among those who are in the habit of consulting them, a mass of ill-defined, half-comprehended, narrow ideas and prejudices, excessively embarrassing to the regular practitioner in his intercourse with them. We have no objection to the universal diffusion of medical knowledge; indeed nothing could be more conducive to the best interests of the profession; but we wish it to be the right kind of knowledge—

knowledge of the general and fundamental principles of the science and not of its technological details with respect to particular diseases. We are not sure, that such books are not as ridiculous as one which should undertake to qualify every one to mend his own watch ; or that there would be more timepieces ruined by the one, than there are constitutions ruined by the other. Few things have contributed so much to the making of habitual invalids, as Buchan's *Domestic Medicine* and other works of the same notorious character.

The work under review, however, stands upon totally different ground. Its object is to provide, as far as is possible, medical assistance for those who are out of the reach of direct professional advice. It is an attempt to substitute information derived from a book for that which is obtained by consulting a physician. And as in the cases to which this work is intended to apply, it is a question between the advice which can be obtained by consulting it, and none at all, there can be little doubt that it will be of service. A judicious and intelligent master of a vessel, who should carefully and attentively study a book of this kind, would, no doubt, especially in the milder cases of disease, be able to render essential service to his crew. It would not be sufficient, and this point we think should be particularly inculcated, it would not be sufficient when a case of disease occurred to turn to the book, and ransack its contents till something was found corresponding to the symptoms which are observed ; the subject should be previously studied and made familiar to the mind, and not left to be investigated at the moment of hurry and urgency, when we are least fit to make a fair and careful examination.

Dr. Parsons describes in the first place, *General Diseases*, including not merely those which would be considered as such by physicians, but all those whose effects are not felt in any individual organ, although really dependent on local disease. This class includes all idiopathic fevers—with regard to which we are not certain that their treatment would not have been made more intelligible by entering less into a detail of the various species—scurvy, jaundice, dropsy, as a general disease, dyspepsia, epilepsy, apoplexy, tetanus, small-pox and measles. With regard to this class, we will only detain our readers one moment by inviting their attention to a few remarks upon the treatment of scurvy, some of which were new to us, and may be to others ; at any rate, they appear valuable and important. The cure of scurvy, Dr. P. observes, "is to be effected by pursuing a course of diet and regimen directly opposite to that which induced the disease. Where this can be done, medicine is almost unneces-

sary. Among the most celebrated and infallible remedies, are succulent fruits, of which oranges, lemons, limes and apples are the best. Unfortunately, however, these articles are with difficulty preserved on long voyages, and consequently least likely to be found when most wanted. Perhaps, then, no article after these is so valuable in long voyages, both for its efficacy and imperishable quality, as potatoes, which have moreover the advantage of being cheap and easily supplied in almost every port. I rarely use any other remedy in a man of war, and always lay in a stock of them, with the hospital stores, purposely for the cure of the scurvy. Whenever a scorbutic patient reports himself unfit for duty, I direct him to abstain from all salted food, and to commence eating raw potatoes scraped and mixed with vinegar, to the quantity of from one to three pounds of the potatoes a day, according as they may agree with his stomach and bowels. The dish is very agreeable, resembling salad or sliced cabbage. With the same materials I dress scorbutic ulcers, and find it a valuable detergent, and as conducive to healthy action as any application I have used." p. 26, 27.

"The concrete salt of lemon should be introduced into every medicine chest in large quantities, since it is imperishable by long keeping, and may therefore be carried to sea for years, and serve as a last resort when every other acid and scorbutic in the ship is exhausted." p. 28.

We are not aware that the tartaric acid has ever been tried as an antiscorbutic. If it has not, there seems to be scarce any article which would be so well worthy the experiment, or which would be so valuable, were it found to answer the purpose. There is every reason to believe, from the nature of this substance, that it would prove equally efficacious with the citric acid, in the form of lemon juice, or the concrete salt, and with those fruits which probably depend for their virtues, in part at least, upon the various vegetable acids they contain. In point of cheapness, it would have a decided superiority over any other acid, since its price, we have been informed, at wholesale, is not more than half that of the concrete salt of lemons.

The second division of this work contains *local diseases*, and these are arranged according to the organs affected. There are eight sections, the first containing the diseases of the head; the second, those of the throat; the third, of the chest; the fourth, of the belly; the fifth, of the urinary organs and genitals; the sixth, of the limbs, joints, and bones; the seventh, of the skin; and the eighth, relating to the treatment of wounds, sores, &c. of various kinds in different parts of the body. The subjects of these sections afford, of course, little room for particular

remark. They are brief, but very comprehensive views of the various diseases, their causes, and their methods of cure, particularly adapted to the circumstances under which they occur at sea. In speaking of the cure of consumption, a few facts are stated, which differ from what we commonly have been led to expect.

"Change of residence to a warm climate," he observes, "is often recommended. In two or three years Mediterranean service, however, nothing occurred within my observation to favour the opinion, that the climate of that sea would be beneficial; on the contrary, among our sailors, consumptions were more frequent there, than I have ever known them to be in other climates.

"In the frigate *United States* were eighteen deaths in one year; twelve in the *Guerriere*, and eleven in the *Constellation*. And what is still more in point, every case I met with, in ships or on shore, was far more rapid in its progress than I have ever known consumption to be in New England."

The venereal disease, we observe, Dr. Parsons recommends to treat with mercury, and to depend upon the specific action of that remedy, and upon that alone, for a permanent cure. "The use of mercury," says he, "is indispensably necessary." We certainly cannot pretend to have had opportunities for observation on this subject, equal to those of the author of this work, whose situation has afforded him an ample field. It seems however at least questionable, whether some of "the noseless faces and mutilated bodies, the sad vestiges of a long protracted disease," may not with at least as much justice be attributed, in a great number of cases, to the injudicious and excessive administration of mercury as to the want of it. We have no doubt that, under his own personal management, this remedy has been found a safe and useful remedy. But the question is as to putting it with unlimited power into the hands of uneducated men. When it is recollected how nice a matter is the adjustment of a mercurial course to the exact necessities of the patient; how many are the sores which are aggravated by its exhibition; how difficult it is even for a surgeon to distinguish them, and to determine what are the effects of the disease itself, and what are those of the medicine; how terrible are sometimes the consequences of persevering in its use in such cases;—when it is recollected also, that it has been pretty well ascertained that the cases which really require the administration of this remedy are comparatively few in number, and are very slow in their progress, it appears a matter of doubt, whether it may not be entrusting too much to those who have not studied medicine to put this powerful drug entirely into their hands. If they have

once fixed in their minds the opinion, that nothing but mercury will cure syphilis in any form, it will be given without the slightest discrimination. Any untoward symptom or aggravation of the disease will be ascribed to a deficiency in the use of this drug; and we have seen too many constitutions ruined by perseverance in the use of mercury, time after time, for a supposed venereal taint, not to deprecate its being committed to the hands of any but the profession. There can surely be little danger in laying down rules which should guide any intelligent sea-captain in the antiphlogistic treatment of syphilis; but the difficulty is great in giving such directions as should enable him to administer mercury in any but the simplest cases of venereal disease. And so slow is the progress, according to the best observations, of that species of disease which is most benefited by mercury, that little danger will ever arise from deferring its administration till medical assistance can be obtained.

The remaining division of this work, constituting rather more than a quarter of the whole, is occupied with "Directions for preserving the health of seamen, &c. in sickly climates." This is a subject, probably, of more real importance than the treatment of their diseases, because it is one which can be more perfectly understood, and more completely carried out into practice, than the other, by those to whom it must be committed.

"The means of prevention are readily understood and easily applied. It is of no consequence, that the commander is not a medical man; for if he, his owners and his crew perform their various obligations to each other, disease at sea must be of rare occurrence. What these obligations are, may in some measure be gathered from the following pages. In offering them I have to acknowledge myself indebted for many useful suggestions to the writings of Drs. Lind, Turnbull, and Sir Gilbert Blane." p. 147.

"The only very fatal diseases incident to seamen are fevers, fluxes, and scurvy, in hot climates; and pulmonary affections and scurvy in cold climates. 'If I were to add any other complaint,' says Dr. Blane, 'to those just mentioned, as most prevalent and peculiar to a sea life, it would be those foul and incurable ulcers, which are so apt to arise at sea, particularly in a hot climate. The slightest scratch or the smallest pimple, more especially on the lower extremities, is apt to spread, and to become an incurable ulcer, so as to end in the loss of a limb. The nature of the diet and the malignant influence of the climate, both conspire in producing them.'" p. 148.

This subject is considered under the heads of air, aliment, and clothing. We have not room for any abstract of the very valuable remarks contained in this part of the work. No one

can read it without being satisfied how much may be done by a little attention from intelligent masters of vessels to the circumstances in which their crews are situated ; to their habits, their manner of living, their exposures ; to the places of anchorage ; the influence excited by the neighbourhood of marshes, of woods, &c. and the state of their vessels as it regards cleanliness and dryness. No one can read it without being satisfied how much disease is suffered, and how many lives are lost for want of that attention, and for want of the opportunity of acquiring that knowledge which only could render that attention effectual. "I have known," says Sir Gilbert Blane, "a hundred yards in a road make a difference in the health of a ship at anchor, by her being under the lee of marshes in one situation and not in the other. Where people at land are so situated as not to be exposed to the air of woods and marshes, but only to the sea air they are equally healthy as at sea." Forty men, it is stated, worked upon a battery from June to December, the most unhealthy time of the year, without losing a man, and during the same time half the garrison of Saint Lucia died, though differing only in situation from being exposed to the air from woods and marshes.

The work concludes with some account of the seasons of sickness, and the diseases incident to strangers in different seaports in the world, and with directions for the selection, &c. of the proper articles for a medicine chest, adapted to vessels of different sizes.

We trust that this work will meet with an extensive circulation. We think it would be an object, well worthy the attention of our principal merchants, to introduce it among the masters of vessels in their employ. They would, no doubt, find themselves amply repaid for the trifling expense to which it would subject them in the greater safety and health of their crews, and the security of their own property. With a due observance of the precautions and preventives insisted upon in the book of Dr. Parsons, we should not so often hear of the extensive and dreadful fatality which sometimes befalls merchant vessels, and sweeps off one after another their whole crews. If the commanders of vessels make it their study, as it is their duty, to understand, so far as they are capable, its contents, there can be no doubt they might arrive at tolerably correct ideas of the nature and treatment of those diseases to which seamen are more particularly subject ; and these, let it be observed, though often violent and severe, are not the most difficult to comprehend or to treat. The complaints of strong and healthy men are generally the most simple and free from complicated and anomalous symptoms. At any rate, they cannot fail of acquiring much

very valuable information from the latter part of this volume, with respect to the prevention of diseases, a subject which deserves by far the greatest portion of their attention.

Dr. Parsons has, we think, performed a valuable service to the public in this work. It does credit to his good sense, his practical skill and judgment, and the industry with which he has devoted himself to its completion. His official situation in the service, has given him an ample field for experience and observation, and this he has improved with great assiduity and intelligence. The nature of his subject does not call for the display of many of the higher attainments of medical science; but we find constant evidences of a thorough and well grounded knowledge of the profession, and a practical acquaintance with all its details. Nothing is done for show, or for the purpose of making a display; nothing is out of place; there is a constant exhibition of accurate views of pathology and practice, and, throughout, a careful adaptation of every thing to the capacity and attainments of those for whom he has written. The descriptions of diseases are brief and perspicuous; giving, not a medical history of its phenomena and its progress, but a view of such of its principal symptoms, as would convey a vivid impression to the mind of an unprofessional observer. The method of treatment recommended is also of that kind, which can best be understood and practised by those for whom this work is intended as a guide; and does not run out into those details, nor include those varieties which could only be embarrassing to individuals who are deficient in a medical education. We have no hesitation in recommending it to the attention of the public, as calculated to do much good, and to supply a deficiency, which has been, we doubt not, much felt, and which we are surprised there has been heretofore no successful attempt to fill.

ARTICLE VI.

Medico-Chirurgical Transactions, published by the Medical and Chirurgical Society, of London. Vol. IX. London, 1818.

A case of Loss of Power over the Voluntary Muscles. By JOHN BOSTOCK, M. D.

THIS is the first article in this volume. It contains a minute account of the progress of a case, which begun somewhat obscurely; advanced gradually but surely; over which, remedies exerted no beneficial influence; which was fatal under circumstances peculiarly distressing, and of the symptoms of which, no elucidation was obtained by dissection.

History of a case of Cæsarean operation, in which the lives of the mother and child were both preserved. By J. J. LOCHER, M. D. TOWN Physician of Zurich. Communicated by J. A. ALBERS, M. D. of Bremen.—With a few preliminary observations by the latter. This article has already been published in a former volume of this Journal.

Case of Inguinal Aneurism, cured after the manner of Compression. By J. A. ALBERS, M. D. of Bremen.—The patient, a sailor, about thirty-six years old, applied to a surgeon in Oct. 1816, for advice on account of a complaint in the right groin. A tumour as large as a hen's egg, and strongly pulsating, was found in this part, and was discovered at once to be an aneurism. The patient had noticed a swelling in the groin about as large as a hazel-nut, which however gave him no uneasiness. It had acquired its present size within the past four weeks, and first began to increase after great exertion on ship-board. So little trouble did the tumour even now give him, that it was found difficult to dissuade him from entering on a voyage to the West Indies. He was directed to consult Mr. Schmidt and Dr. Albers, they recommended the operation of tying the artery, which he strenuously opposed. The gentlemen were then led to employ compression. "For this purpose we gave him a compressorium, which, like the old rupture-bandages, consisted of a cushion fastened to a strap, which was buckled round the body. On the lower and inner side of the cushion there was also a strap, which was fastened round the thigh by means of a buckle. The cushion consisted of two iron pieces: the uppermost had the form of a common cushion, and was externally covered with leather: the lower piece was round, and covered below with strong cloth, and above with leather. It was connected with the upper piece by a screw, by the operation of which, its pressure on the tumour could be increased or diminished at pleasure." The compression was borne constantly for two months, when the pain in the aneurism increasing to such violence, and the swelling of the thigh and leg being so great, that it became necessary to remove the instrument. "During this period the swelling attained its greatest extent; it had a red and inflamed appearance, and was fully as large as a goose's egg; the pulsation was also now the strongest. The whole of the thigh was extremely painful, and a distressing coldness was experienced in that part, on which account it was often rubbed with flannel. During this period, he observed a low diet, and his treatment by Mr. Prohfs (the surgeon first consulted) was antiphlogistic, but without the loss of blood." "After he

had remained a week quietly in bed, the pain decreased, and the pulsation in the swelling lessened. He now put on the compressorium again, without experiencing much inconvenience from it; he still continued in bed. The size of the aneurism now decreased, the swelling of the thigh and the pain therein became less and less, so that the patient was enabled again to go with the help of a stick. The amendment was now uninterrupted until the month of June, 1817, when no further pulsation could be perceived in the inguinal region. The swelling of the thigh and the pains in it had also disappeared totally. The compressorium was now no longer used." "When I saw the patient in the end of September, I could not detect the slightest pulsation in the inguinal region. I conclude the femoral artery must have been obliterated. The whole thigh was rather thin, and a little œdematous swelling was still to be perceived. When the patient walks much, he feels still an uneasiness in the whole of the leg; in other respects he finds himself so well, that he intends soon to serve again as a sailor."

It is not the object of this paper to recommend compression in aneurism as a substitute for the operation of the ligature. Cases however occasionally occur in which this last will not be submitted to, and in these the former may be tried. Other cases are alluded to of the success of compression. It was tried in a case of aneurism of the brachial artery. The gentleman would not submit to the ligature. "I could effect no cure," says Dr. Albers, notwithstanding compression was continued for six years; but the aneurism did not augment in size during its application. This patient, who had long suffered under angina pectoris, died suddenly at dinner, without the smallest preceding attack of suffocation."

Case of Cynanche Laryngea, by Dr. Arnold.—The patient, a farmer, had been exposed to cold, January 16, 1817. He was well enough to attend a market in a neighbouring town on the 17th. In the night of this day, the throat was felt to be sore. The soreness increased during the 18th, and at 3 P. M. he consulted his apothecary, who prescribed the usual remedies for slight sore throat. "About 9 o'clock that evening, when gargling, he first felt an inability to swallow; in his efforts to do which, and to continue to gargle, he was seized with a severe spasm of the muscles of deglutition, and this was immediately followed by a similar spasm of the chest; and such a distressing sense of suffocation was produced, that he seemed to be threatened with instant death, called for the window to be opened, and at length went into the yard, where he leaned in the greatest agony over some paling, expecting every moment to breathe his last."

This paroxysm lasted about two hours, ten ounces of blood were taken by the apothecary. Dr. Arnold first saw him about 1 o'clock Sunday morning, 19th Jan. The patient complained of sore throat. He said "his throat was stopped up. Examination of the parts discovered neither inflammation nor tumour. Upon an attempt being made to depress the root of the tongue, and to draw it forward, exquisite pain was experienced. "His voice was very hoarse, but little louder than a whisper; and he was constantly spitting up a tough gelatinous mucus. His pulse was about 110, of moderate strength, and his skin rather hot." The seat of pain, and of obstruction, was the thyroid cartilage. Upon an attempt to swallow a little fluid, it was forcibly rejected through the nostrils, and the effort produced a violent spasm, and vomiting of green bile.

The treatment in this formidable attack of *Cynanche Laryngea*, consisted first in the immediate abstraction of about thirty ounces of blood. The arm was bound up from the strong tendency to deliquium manifested when this quantity had been drawn. The patient said, when recovered a little, that the pain was much abated. Ten grains of calomel were now mixed with a little syrup, and the patient directed to put them into his mouth, and to seize an opportunity when he might feel able to swallow it.

An attempt was made in a few minutes, and was partially successful, the remainder was swallowed on a second attempt, though at the expense of a paroxysm of dyspnoea, and sense of suffocation; followed by nausea, and a sense of something sticking in the throat. A purgative enema was directed to be given immediately to remove a distressing sense of fulness in the lower bowels, and the calomel to be repeated in ten grain doses.

Before Dr. A. left the house, the disease began again to increase, but from the feeble state of the pulse, it was apprehended that a second bleeding from the arm might be injurious, and a dozen leeches were ordered to the upper part of the trachea. A blister was directed to be applied to the sternum, and a second purgative injection to be thrown up in 4 or 5 hours, should the calomel fail in that time to act upon the bowels. Dr. A. left his patient at 3 A. M. and visited him again at 11. He found him with less pain of the throat, and notwithstanding he said he could not swallow, he had been able to get down another calomel powder, though with great difficulty. The other directions had been followed, and the pulse was 100, and the hoarseness less. It was now time to take the third powder, which was done "with some degree of comparative facility." Dr. A. ordered the continuance of the calomel as before, and the applica-

tion of leeches in the evening, should the pain increase, and even if there should not be a further abatement of it.

Monday, January 20th. All the symptoms milder, some pain however is still complained of in the throat, swallowing much improved. Tendency to ptyalism, calomel discontinued, pulse 110, tongue slightly coated. Febrifuge draughts ordered; and a dose of jalap for the next morning. Leeches again directed to be applied to the throat, and to be repeated if the pain in the throat continued.

Wednesday, Jan. 22. Patient quite convalescent. He gradually recovered a better state of health than he had enjoyed for some time before this serious attack.*

Some observations on the cure of Hydrocele of the Tunica Vaginalis Testis, without procuring an obliteration of the Sac.
By KINDER WOOD, Esq. Member of the Royal College of Surgeons, &c.

The operation proposed and performed by Mr. Wood for Hydrocele is very simple, and in his hands has been very successful. We have not heard of its having been tried by any other surgeon. Three cases are published in this paper, in which Mr. Wood did his operation. The following extracts from the first case, will show in what its peculiarity consists. The disease had existed 16 years. It followed an injury to the part, and had always been thought a rupture. The patient was healthy and robust, and about fifty years of age. "I found the disease to be a Hydrocele of the Tunica Vaginalis Testis of the left side. The tumour was opened with a broad shouldered lancet, in the customary situation, the lancet, in consequence of its figure, making a larger incision into the external covering than into the Tunica Vaginalis; fourteen ounces of clear water were evacuated through the opening; when the Tunica Vaginalis was emptied of its contents, and a small part presenting at the internal opening, this was slightly hooked with a small dissecting hook, and a portion so brought forward through the internal incision, as to enable me to cut it away with a pair of

* "Our friend Dr. Armstrong at the Fever Institution, has treated several cases successfully, by means of emetics without venesection; and Mr. Alcock, at the St James's infirmary, has found nauseating doses of emetics of great use; but he has not considered it safe to trust to any medicine, without premising active and prompt depletion in the first instance. The relief from bleeding *ad deliquium* has been so complete in some instances as to render very little medicine requisite. He has not found calomel of use without active depletion, though the latter has been successful without the former."—We add this note from *Med. Intel. No. 12.*—*Am. Ed.*

fine scissors. The puncture was then closed and supported with adhesive plaister; the parts were put into a bag truss, and the patient enjoined rest and a recumbent position. The day after the evacuation the patient was walking about the house upon my visit; there was a little tenderness and tension of the scrotum upon examining, but no pain in the loins or fever. The third day the scrotum was much the same; the plaisters were removed and fresh ones applied, as they did not lie comfortably. On the fourth and fifth day the man walked up to my house, and from this time the tenderness and tension of the parts gradually subsided; the incision healed in an ordinary time by the first intention, and the result was a complete cure in less than a fortnight, so that the man returned to his customary employment."

The result in the other cases was similar to this. The patients did well, in a short time, without the occurrence of severe symptoms; and careful examination showed satisfactorily that no obliteration of the sac was produced. The explanation of the operation is simple. Union, by the first intention, does not take place in the tunica vaginalis, as it does in the integuments of the scrotum. This union is prevented by the loss of substance to which the membrane is subjected in the operation. The consequence of this want of union is an inflammation which extends along the membrane lining the cavity. It is to this inflammation the cure of hydrocele under Mr. Wood's operation, and when it takes place under simple puncture, is to be attributed.

An interesting case will be found at the end of this article, in which a puncture was made with a lancet, and from three to four ounces of a straw-coloured fluid evacuated, and a small portion of the tunica vaginalis cut away. This patient had been for some time under Mr. W.'s care for affections of the chest, attended with cough, large mucous expectoration and dyspnoea. He was very much reduced. Inflammation of the substance of the testicle followed the operation on the tunica vaginalis. The inflammation was very violent, and yielded slowly to treatment. Under the confinement and the violent affection of the testicle, the pulmonary symptoms gradually declined, and at length disappeared. "And says Mr. W. I am very much induced from its previous obstinacy, to conclude, that this affection of the testicle had a powerful effect in superseding the troublesome and formidable disease in the breast. In the beginning of August, 18 months after the puncture, I examined the testicle, and found it a little larger than the opposite one, but no other perceptible difference from nature, excepting an evident adhesion of the tunica vaginalis to the tunica albuginea."

A Case of Hereditary Ichthyosis. By P. G. MARTIN, Esq. "Cases like these," says Mr. Martin, "are subjects of record rather as matters of curiosity than of practical utility, or as affording any useful physiological deduction."

Experiments on the Transfusion of Blood by the syringe. By JAMES BLUNDELL, M. D. Lecturer on Physiology at Guy's Hospital. [This article has already been published entire in this Journal. See p. 161. vol. viii.]

History of the Progress, and inquiry into the Causes of the Yellow Fever, as it appeared in the Island of Antigua in the year 1816. By A. MUSGRAVE, M. D. of Antigua.

The writer has furnished highly valuable testimony against the doctrine of contagion. He proves very clearly the local origin of the disease. He differs from some highly respectable authors, particularly Doctor J. Johnson, on the subject of *prophylaxis*, declaring those to have escaped most frequently, and to have recovered most perfectly, who had lived well, and who had used wine, freely, but who did not take it to excess.—He agrees with the best writers, concerning the treatment of the stage of the disease, viz. by free blood-letting and purging.

He advises to the use of bark at an early period, viz. after V. S. and full purging, and without waiting for a "marked remission." If we wait for this, the state of the stomach will most probably preclude its use entirely. The powder should be first tried, and if this be not borne on the stomach, the combination of serpentaria with it, in infusion, adding a proportion of the *sp. æth. nitros.* was generally found to be a good form of prescription. This epidemic was distinctly traced to marsh miasmata, was it from their agency in its production, that so much advantage was derived from bark after full depletion, or was it that the previous steps cut short the disease, and the powers sooner rallied under the effects of the bark as prescribed by Dr. M., than when this article was not used?

Experiments and observations on the union of Fractured Bones. By JOHN HOWSHIP, Esq.—Our limits will only allow us to extract the conclusions drawn by the author, from the inquiries and experiments contained in this highly valuable communication.

"The first effect of fracture is extravasation of blood into the surrounding soft parts, the quantity poured out varying according to the degree of contusion or complication. This blood is principally diffused through the cellular tissue of the periosteum, increasing

its thickness after the manner of ecchymosis in the common cellular membrane; a similar effusion takes place from the vessels within the medullary cavity, and a coagulum is deposited in each of its openings; there is also extravasated blood deposited between the fractured parts of the bone in larger or smaller quantity, according to circumstances. But although the smaller coagula in the openings of the medullary cavity, and the larger quantity of blood between the ends of the bone, were probably at the first continuous, they are readily distinguished in examination, the former being more tenacious and elastic, the latter retaining the properties of a common coagulum.

"The blood effused in fracture suffers various degrees of change, regulated by its situation; but under all circumstances it forms the medium in which the ossific process is established. It may be observed that the blood soon coagulates, and that subsequently most of the colouring matter disappears, and it is probable that the greater freedom of circulation is the means of effecting these changes earlier and more completely in the blood deposited in the cellular tissue of the periosteum than elsewhere; although these circumstances do not materially influence the subsequent establishment of ossification.

"When the colour disappears from the blood effused into the periosteum, the altered membrane becoming more firm assumes by degrees the characters of cartilage; and from its appearance under the microscope, as well as from its power of facilitating ossification, it may be considered as having taken on all the properties of true cartilage.

"The mode of progression in the ossific process seems to indicate a degree of caution, as if a principal object was to guard against the possibility of the least disturbance or motion between the parts of the bone, subsequent to the act of union. We see that ossific matter is first deposited upon the surfaces of the bone, near those points where union is to take place; ossific matter is also secreted round the margin and within the medullary cavity of the bone; and the foundation being laid, the whole work advances from either side into the coagulum deposited between the two ends of the fracture, no point shooting forward beyond the rest, until an extended mass of bone is produced from the apposed surfaces; and while the two surfaces of the new work approach each other, the intermediate soft substance, the remains of the coagulum of blood, increases in compactness, as it diminishes in thickness, the seat of the fracture thus acquiring a remarkable degree of firmness previous to the actual accomplishment of ossific union.

"The circumstances of the fracture evidently regulate the quantity and seats of the ossific deposit. In the simple transverse fracture with little contusion, where the bone is immediately reduced, and the limb kept perfectly quiet, the degree of internal laceration will be small, the effusion of blood inconsiderable, and the ultimate deposit of bone moderate in proportion. Ossification, in this case, is

established within each orifice of the broken bone, and also round the external margin, extending itself conformable to the freedom of the preceding effusion into the periosteum, to some distance above and below the seat of the fracture.

“ In oblique fracture, where the bones have suffered more violence at the moment of the accident, and are retained with more difficulty when reduced, the effusion of blood will be greater, and the quantity of ossific matter formed will be also more abundant. The appearances in the present case will be materially different from those observed in the former. In the transverse fracture the ossific matter is deposited equally, presenting a gentle elevation, extended above and below the line of the division. In the oblique fracture, however, the appearances are less uniform. An occasional degree of motion between the parts of the bone being with difficulty restrained, points of irritation are established, dependent on the circumstances of the accident; and while some parts of the cylinder are progressively covered with ossific matter, others are left naked and exposed. But in the oblique, as well as in the transverse fracture, a free secretion of ossific matter takes place within the medullary cavity, because in both cases a well supported platform must be brought forward from each of the fractured ends of the bone.

“ Where, however, the fracture is not only oblique, but attended with extensive contusion, or comminution, the broken ends of the bone will generally ride considerably over each other, giving a new turn to every stage of the uniting process. The effusion of blood will be most conspicuous at certain points, at which points the subsequent changes and ultimate deposit of bone will also take the lead; and upon attentively considering the appearances in these cases it will be perceived, that the powers of the constitution seek to compensate the unfavourable state of the parts, by laying a broader foundation for repair, increasing the extent of the sphere of operation as far as may be necessary for the eventual union of the fragments, with the principal parts of the cylinder into a single bone again.

“ When the fracture is still further compounded by a wound communicating externally, the constitutional powers foiled in the endeavour to complete the process necessary to complete recovery, establish new actions, and while every exertion is made on the one hand to repair the injury by the abundant deposit of ossific matter, a manifest effort takes place on the other, to effect the removal of whatever parts of the bone may have entirely lost their circulation. This removal is attempted either by the internal surface of the periosteum alone, which takes on a granulated and extremely vascular texture, possessing the power of absorption; or by this means, in conjunction with the soft contents of that portion of the bone which may not have suffered an entire suspension of its vital actions, in which case absorption is excited in the nearest longitudinal canals.

"As to the composition of bone formed after fracture, from the constant disposition to crack and split off under calcination, where the new bone was external to the old, and from the uniform but great contraction in exposure to heat, where the new-formed bone was at liberty to contract, I have been led to conclude that the newly deposited bone certainly contains a larger proportion of animal matter than the original bone, and it is worthy of remark, that this character was very distinctly observed in callus examined several years subsequent to the date of its production."*

Brief notice presented to the Medico-Chirurgical Society, with the original obstetric instruments of the Chamberlins. By H. H. CANSARDINE, Esq.

Case of Aneurism in the Arm, cured by tying the Subclavian Artery. By Dr. POST, of New-York. Communicated by Mr. COOPER.

The following extract from this instructive and successful case contains an account of the situation of the aneurism, and the steps pursued by Dr. Post in the operation.

"The high situation of the tumor on the arm, and the extension of its base into the axilla, precluded the operation at this part, and it was therefore determined to tie the artery above the clavicle.

"An incision, commencing at the outer edge of the tendon of the mastoid muscle, was carried through the integuments about three inches in length, in a direction deviating a little from a parallel line with the clavicle. This divided the external jugular vein, the bleeding from which required a ligature for its suppression; and in proceeding with the operation, three or four arterial branches were cut, which it was also necessary to secure. The subclavian artery was then sought for immediately external to the scaleni muscles, and was easily laid bare. Passing over the artery at this place, in contact with it, were three considerable branches of nerves, running downwards towards the chest from the plexus above. These were separated, and the ligature passed under the artery with great facility by the instrument well adapted to this purpose, invented by Drs. Parrish, Hartshorne, and Hewson, of Philadelphia. On tying the ligature, all pulsation ceased in the limb; the edges of the wound were now brought together, and secured by sutures and adhesive straps, and a light covering of lint finished the dressing."

* This circumstance is curious, because it proves that nature adopts two standards for the composition of healthy bone, in the human subject; exhibiting in this respect a parallel to what I some time since (see Vol. VI. page 276.) demonstrated in birds, the bones of which, in their first formation, contain a very remarkable excess of animal matter, which excess I found disappeared upon the completion of growth, when the internal fabric of the bones is re-modelled, for the purpose of establishing the air-cells and cancelli.

A singular case of Expulsion of a blighted fetus and placenta at seven months, a living child still remaining to the full period of uterogestation. By JOHN CHAPMAN, Esq. This case is recorded on account of its rarity. It contains little of practical interest, and the title to the article embraces the most important particulars of this "singular Case."

Some observations on one species of Nævus Maternus; with the case of an infant where the carotid artery was tied. By JAMES WARDROP, Esq. F. R. S. Ed.—Mr. Wardrop treats in this paper of a congenital tumor situated under the skin, viz. in the cellular membrane between the skin and the subjacent muscle. This tumor he denominates the *Subcutaneous nævus*. Nævi occur also in the skin itself. These he proposes to denominate *cuticular nævi*. This disease has been frequently confounded with aneurism by anastomosis, which has been so accurately described by Mr. John Bell. Two cases of subcutaneous nævus are related by Mr. W. in this paper. The first case was seen on the tenth day after birth. The tumor was situated on the back part of the neck, "over the occipital extremity of the left trapezicus (trapezius) and sterno-mastoid muscles. It was of the form and size of half an ordinary orange."

The tumor had daily increased, and profuse hæmorrhage had occurred from the bursting of the skin. The size was not diminished by the bleeding. It could be reduced by pressure. It rapidly filled when the pressure was removed. "There was no distinct pulsation, but a violent throbbing was felt in the tumor, and arteries beating strongly passed towards it."

Immediate extirpation appeared the only means of saving the infant, and this was immediately accomplished. The whole mass was removed by a few incisions, but so profuse was the hæmorrhage that the child expired.

In the second case the child was six weeks old. "The base of the tumor then extended from the temple to beyond the angle of the jaw, completely enveloping the cartilage of the ear. Its form was semispherical, the upper part of its surface being flattened from a large portion of the integuments having ulcerated. This ulcer was about three inches in diameter, its surface having a sloughing appearance, and accompanied with a good deal of fætor."

At birth this tumor was about the size of a small-sized orange, and had increased daily. For the extreme debility and emaciation of the infant, it was thought necessary to make an effort to restore some vigour to it before an operation. This

was so far done in 24 hours by means of milk, beef-tea, brandy, and opium, that it was decided by Mr. W. and his friends Mr. G. Young, and Mr. Travers in consultation, to proceed to the operation. The operation consisted in tying the trunk of the common carotid. "In making the incision through the integuments it was necessary to guard against wounding some large veins. The incision was made along the tracheal edge of the sterno-mastoid muscle, and with a blunt instrument the sheath of the artery was readily exposed. By keeping apart the edges of the incision the sheath was easily slit open, the artery laid bare, and the eye of a probe armed with a small ligature passed under it. The ligature was moderately tightened with a single knot, and the lips of the wound brought together with a stitch and adhesive plaster."

Up to the *thirteenth* day from the operation the reports continue favourable, and there even seemed a prospect of final recovery. On this day however the report states, "the child became suddenly weaker, refused to suck, and notwithstanding the use of brandy and opium in repeated small quantities, it rapidly sunk, and died on the fourteenth day after the operation, exhausted by the irritation which now involved the whole surface of an enormous tumor."

Mr. W. speaks of the very beneficial and speedy effects experienced from the application of the balsam of Peru in stopping the process of sloughing and of destroying fœtor. The remarks on this part of his paper thus closes. "How far it may be advisable in some cases to remove large subcutaneous nævi by ligature, I cannot from experience decide. Mr. White informed me that he thrust a needle through the middle of a very large subcutaneous nævus on a child's shoulder, and included each half of the swelling within the noose of a ligature. The operation was attended with complete success."

The paper concludes with the history of a cure of aneurism by anastomosis of the ring finger of the right hand. "There was a general fulness of the first phalanx, but the chief swelling was on the palmar surface and ulnar side of the finger, the circumference of which may probably have exceeded the natural dimensions by one third."

Mr. Hodgson tied both the radial and ulnar arteries, but without any permanent relief. This case is communicated to Mr. W. by Mr. Lawrence, and the following operation was suggested and performed by Mr. L. "Assisted by Mr. G. Young and Mr. S. Cooper, who had sanctioned the proceeding by their approval, I made a circular cut through all the softer parts, excepting the flexor tendons with their theca, and the extensor

tendon. The digital artery which had pulsated so evidently in the palm of the hand, was fully equal in size to the radial or ulnar of an adult, and was the principal nutrient vessel of the disease. After tying this and the opposite one, we were much surprised at finding so strong a jet of arterial blood from the other orifices of these two vessels, as to render ligatures necessary. This occurrence, however, dissipated any apprehensions that might have been entertained respecting the subsequent supply of the finger." The wound could be but imperfectly brought together, and healed slowly. The leading symptoms were relieved, "the pulsation and the pain were put an end to," and the finger was nearly restored to its original usefulness.

Notes of a Case of Mercurial Erethism. By T. BATEMAN, M. D. F. R. S., &c.

Mr. John Pearson appears to have been the first to notice this singular and often fatal affection, of which Dr. Bateman has in this article furnished an admirable history. We would willingly have offered the whole paper to our readers, but the claims of the remainder of this volume to notice, will not allow us to do this, and we must confine ourselves to an account of some of the more prominent symptoms. Mercurial inunction was recommended in a case with a view to relieve an amaurosis of the right eye. It was begun January 16, 1817, the gums were found to be tender on the 23d, and the *erethism* manifested itself at four in the morning of the 25th. The affection is constituted by a violent and irregular beating of the heart, attended by alarming sinking and fainting, occurring in paroxysms. In the attack in question laudanum did no good, the affection suddenly going off at about 4 P. M. The irregularity of the circulation appeared again at 11 A. M. of the 26th, and continuing all day, the mercury was omitted this night. 27th. The palpitation having disappeared, the friction was repeated at night. The disturbance in the heart appeared again towards morning. 28th. The disturbance continuing, mercury was given up entirely. For a week the symptoms continued, and to these were added a violent spasmodic cough, which was relieved by cordials. The affection soon assumed a more severe character, the patient could not lie down. The sleep and circulation became excessively disturbed. The greatest anxiety was expressed for fresh air. Extreme depression of strength, and a feeling of sinking to immediate death were experienced. The powers of the stomach failed, and solid food, which had been before well borne, was now insupportable. An immoveable flatulence was experienced. The most powerful stimulant and antispasmodic

remedies were the only means of affording any relief. "But the most speedy and sensible relief under these extreme sinkings was produced by a musk draught, containing ten grains of that substance. The first dose of this medicine appeared to diffuse its stimulating effects through the whole frame, exciting a sort of electric tingling, even to the extremities of the limbs, and an immediate feeling of renovated strength. The same effect was produced in a somewhat less degree whenever it was repeated, and being left as a sort of sheet anchor, it was taken four times afterwards in the course of the ten following days, when the most alarming paroxysms of faintness occurred, "Cayenne pepper, in pills containing a grain each, was given with some relief. During a period of this affection, sleep induced most distressing paroxysms. To such a degree did this at length arrive, that it became necessary to interrupt the sleep every two minutes." This measure was necessarily continued for three weeks or more, during which time the permitted slumbers were gradually increased, having reached five minutes in eight or nine days, and soon afterwards a quarter of an hour; still however producing similar paroxysms of fainting, more or less severe."

In the very gradual progress to recovery, the patient began to take food more and more nourishing, and at last could take animal food. This case occurred in the person of the narrator.

On the Effect of Nitrate of Silver on the Complexion. By DR. BADELEY, of Chelmsford. Communicated by SIR H. HALFORD, Bart.—Nitrate of silver was given in a case of epilepsy, and successfully, after the failure of leeches, blisters, emetics, mercurials, bark, steel, zinc, valerian and turpentine. The skin did not begin to grow dark, till some months after the fits had left the patient. The dark colour was found very much increased on a second visit, although he had discontinued the nitrate of silver six months. Nothing is said of the treatment of this affection, nor about the continuance of this leaden colour of the skin.

Case of an Extensive wound from the Bite of a Shark. By DR. KENNEDY.—The wound in this case was very extensive, implicating the cavity of the abdomen, exposing the colon, in its passage across the belly, and several other convolutions of the small intestines. The patient recovered.

A Report of the Principal Diseases which occurred among the Gentlemen Cadets in the Royal Military College, at Great Marlow, Bucks, and Sandhurst, Berkshire, during a period of seven years. By N. BRUCE, Esq. A. M. &c.

Cases of Fungus Hæmatodes, Cancer, and Tuberculated Sarcoma, with observations. By GEORGE LANGSTAFF, Esq.—This paper adds new proof of the fatal tendency of the diseases on which it treats. The first case related by Mr. Langstaff, is a case of fungus hæmatodes in the lungs. In the second this disease appeared in the liver, without occurring in any other part of the body. In the third it affected the external parts of the body, the left forearm first, then the neighbourhood of the clavicle, and at length the axilla. It farther involved most of the thoracic and abdominal viscera. In the fourth the disease appeared on the external part of the body, and in the lungs. In the fifth it was excited by cancer scroti. The sixth is a case of fungus hæmatodes excited by a carcinomatous affection of the penis. The seventh is a case of carcinoma in the breast, with pulpy tumours in the lungs, liver, and ovaries. The eighth, the same disease of the breast, with pulpy tumors in the lungs, liver, &c. The ninth and tenth, cases of tuberculated sarcoma. All these cases were fatal. Their history, embracing views and statements of the circumstances under which the diseases begun and advanced, offers the strongest internal evidence of the accuracy of the writer. Very careful dissections were made after death, and the morbid appearances are fully stated. There is no particular mode of treatment pointed out for the cure of these diseases. Such a method is unknown. Amputation of a limb has been practised where the disease has attacked an extremity, but with no success. The tumors have been extirpated, but with no permanent advantage. Where fluctuation has been evident, and the best external evidence has been given of a contained fluid, the skin very thin and tense, and the pain very great, the tumors have been punctured. Very little fluid has been discharged, while a fungus has protruded, and additional violence been given to the local and constitutional symptoms. The only objects therefore in the treatment, in the present state of the history of these affections, is to regulate the state of the bowels, use light nourishing food, and relieve pain, in short, to render the situation of a patient, hopeless as to cure, as comfortable as possible.

It would be difficult to furnish an abstract of each of these cases, without swelling this article to a very disproportionate length, and the value of Mr L.'s paper is to be found in the minuteness of its details, and the confirmation it gives to former opinions, concerning the diseases about which he writes.

We extract the following remarks on an appearance in carcinomatous diseases noticed by most authors, but never distinctly detected by Mr. L. "A clean longitudinal section of those

parts," viz. the breast, and tumors scattered over various parts of the body; "and of the axillary glands, presented a very dense white substance, with small patches of a pulpy matter similar to the external tumors. There were a few irregular appearances of condensed cellular substance, such as we notice in any hardened part of the body, occasioned by disease not of the malignant class; but none of those firm whitish ligamentous bands, arranged in the way which authors who have described the genuine carcinomatous affection of the breast, have discovered. Nor have I been so fortunate as to meet with a single specimen of this description, although I have examined a great number of carcinomatous breasts; which induces me to suppose, that the nature of carcinoma has become as much modified as the genuine chancre, described by that very accurate observer Mr. Hunter." We quote the following conclusions drawn by Mr. L. from the facts which have fallen under his notice, and offer them to our readers as well worthy their consideration. "From what I have seen of cancer and fungus hæmatodes, I am convinced of their not being local diseases, any more than those of the scrophulous class; they must therefore be considered what has been termed constitutional. And having noticed many small scrophulous tubercles in the lungs of still born children; also pulpy tumors in the lungs of adult persons, who have not been affected during their lives with the least symptom of pulmonic disorder, or who died of active disease of a different description in other viscera; I am led to suppose that these specific and malignant diseases, such as cancer, fungus hæmatodes, and scrophula, have their origin perhaps with the formation of the fœtus in utero; and that they remain, after the birth of the individual, in some instances dormant or inactive for a series of years, and in all only require a peculiar morbid excitement to occasion their increase and distinctiveness"—"with these ideas on the subject, and having often remarked a recurrence of the disease, after patients had submitted to the removal of some member or part of the body; I shall in future carefully avoid inducing patients thus afflicted to consent to amputation of any important part, with the promised hope of preventing any re-appearance of the disease; as I do not know any thing more distressing to the mind of a person who has suffered a painful operation, than to have its results unsuccessful."

"Generally speaking, I have found the genuine carcinomatous tumors slower in occasioning death, than the tuberculated sarcoma or fungoid diseases. The two former extend their malignant action to the adjacent absorbent glands; but in fungus hæmatodes, those glands seldom take on the morbid alteration."

Case of Hydrocephalus, successfully treated by the removal of the water by operation. BY JAMES VOSE, M.D. of Liverpool.

Of this case a notice was given in a former volume of this Journal, the child was 7 weeks old, and puncture was practised as follows, 12th July, with an old fashioned couching needle, 3 oz 5 dr. water were discharged. About the same quantity dribbled away afterwards. The child sunk and was thought to be dying. It revived. 29th July, operation repeated with a curved and pointed bistoury. 5 oz. evacuated. 20th August, operation repeated. 8 oz. discharged without constitutional disturbance. 29th August, operation performed for the last time. 12 oz. discharged in a continued stream, a grooved director having been introduced.

Soon after the last operation the child discharged a considerable quantity of water by the bowels, at first along with the natural discharge, but afterwards alone, and resembling the water evacuated from the head, this continued four or five days. The same low state was discerned in the child on the second day after this occurrence as after the first operation on the head. This however was recovered from, and the bones of the head at the date of the communication, November 27th, are, says Dr. Vose, nearly as complete as is usual in a healthy child of similar age. "Our little patient has besides improved in health, size, and vigour; its appetite and digestion are good; and what has afforded us particular interest, not a single convulsion has occurred since the first operation."

Account of a Case of Defective power to Distinguish Colours.
—By WHITLOCK NICHOLL M.D. F.L.S.

On the use of the Actual Cautery as a remedy for the cure of diseases. By J. P. MAUNOIR, Professor of Surgery in the University of Geneva.

Professor Maunoir has employed fire as a remedy in the cure of disease, and with success. He thinks it has passed into unmerited neglect both in England and on the continent. Mr. Sharp in London, and Dionis in Paris at the same time declared themselves its enemies, and employed the weight of their authority to bring it into disrepute. They succeeded, and Professor Maunoir, has undertaken the task of bringing it again into notice. We shall briefly notice the cases in which he has tried it, and which are reported in the paper under analysis. In 1798 he was consulted by a young man who had long been afflicted with local scrofula. "A hard, red string of glands suppurating in seven or eight places, extended along the lower jaw and upper part of the throat from ear to ear, or from one mastoid process

and parotid gland to that on the other side." All the common means in use had been employed, but with no benefit. "I then burnt with a cauterizing iron, heated to the greatest degree, the fistulas and ulcerated glands." The appearance of the disease was altered at once, and a second application of fire completed the cure. He made use of the same means about the same time in a case of fistulous ulcers of the left thigh. The olive shaped cautery was applied and with complete success. The next case reported is that of a boy who had been severely bitten by a mad dog in the hand and arm. He had eight or ten wounds. He refused to submit to the cautery from fear. He was forcibly held, and the instrument applied. As soon as he felt the burning iron he ceased screaming, and said, "is that all, untie me and set me free, I will not move;" and bore, in fact, with perfect serenity, the repeated application of actual cautery, desiring me, says Professor Maunoir, when I had finished, to examine carefully if no scratch remained. This patient did well, and is one among many others in whom the same means were employed under similar circumstances of danger.

The next is a case of chronic enlargement of the whole lining membrane of the cheeks, and in which the teeth of both jaws were buried in the gums. Various means had been employed without benefit, mastication and deglutition had become alike painful and difficult. The actual cautery was proposed, and submitted to without hesitation. The carious teeth and roots were drawn about three weeks before the operation, and the cautery was repeated three different times after an interval of a fortnight between each. "I drew the red hot iron, says Professor Maunoir, rapidly over the gums, so as to produce instantaneously a deep rut, wherever they had passed. Each operation required the application of the iron at least twenty different times. For which purpose half a dozen olive-irons about the size of a tonquin bean, were ready at the same instant, that they might never be used but with the greatest degree of heat. The patient continued so tranquil under the operation, that a stander-by must have concluded it was scarcely painful. The usual falling off of the sloughs, and the abundant suppuration which followed, terminated in a complete cure of the disease."

The next case is an ulcer of 15 years standing on the lower lip. In three weeks this disease was cured. The actual cautery was applied twice. In the next the same means were used, in a case of disease of the spinal column, occurring after rheumatism in a constitution broken down by every species of dis-

sipation. The patient had entirely lost the use of the lower extremities. Under the use of the cautery the disease was checked and the use of the limbs regained. A tumor very suddenly appeared in the left fossa iliaca, with fluctuation. It was unaccompanied by pain. After some weeks the tumor gradually and entirely subsided, and the fluid which formed it appeared in the interior of the thigh near the small trochanter, "where it grew to the size of a fœtus at full time." Compression was made below the tumor to prevent the spreading of the matter, and the tumor gradually disappeared, leaving a small hard lump in its stead, deeply situated in the thick of the thigh under the little trochanter, and productive of no sort of inconvenience. "The elevation of the vertebra affected by the tumor, was the only trace it left, and from that time till his death, occasioned by typhus fever in 1811, no symptom ever after appeared of the disease."

The last case related by Professor Maunoir, is one he terms fungus hæmatodes, "a pyriform tumor like a goose egg, of a livid colour, adhered to the scapula, near the armpit, by a stalk. It was of a spongy nature, diminished by compression. Independent of this pendulous tumor, the fungus spread like an irregular map over the scapula and upper part of the arm. Many places were ulcerated, and the ulcer opening about once a fortnight, caused hæmorrhage, that was difficult to stop, and which had reduced the patient to extreme weakness." It was agreed on in consultation to extirpate the tumor, and to apply the actual cautery over the whole of the fungus. This was done, the wound from the slough granulated well, though the whole could not be brought to cicatrise. This patient, though not cured, is in a very comfortable condition compared to her state before the operation. "The pains have disappeared and she can make use of her arm." Professor Maunoir, in conclusion says, he has used the actual cautery in carious teeth, by which parts which have remained have been preserved, and pain removed; —in ozena of the maxillary sinus, with polypous vegetation, and in ischiatic tuberosity, and with equal success.

"The most important precaution to observe in employing actual cautery is, to use the iron only when it is nearly white with heat, and to apply it instantaneously, so as to destroy the parts it touches, while it scarcely heats those around them. The contrary is the case where moxa is applied, a more general and less local action is required, and the slow burning of the cotton perfectly fulfils this intention."

Further account of the result of an operation for forming an artificial pupil. Extracted from letters addressed to Pro-

fessor Scarpa. By J. P. MAUNOIR, Professor of Surgery at Geneva.—The first part of this paper was published in the sixth number of our journal p. 395. The following extracts are made from the "further account." January 24th 1816. "That portion of the crystalline of the right eye which adhered to the new pupil has disappeared. The centre of the opening in the iris is of a clear dark colour: it is obscured in different parts of its circumference by a sort of veil resembling a thin gauze? An opaque portion of the lens about the size of a millet seed was discovered immediately before the pupil. February 3. The extraneous body has disappeared, sight improved.

Some time after an operation was performed for the removal of the fragment of the crystalline and the veil resembling a cobweb. At the first attempt the former receded to the bottom of the eye, with the second the operation was more successful, and "the spoons of my pincers were filled with it, and I brought out a sort of opaque jelly. I next introduced my double-button scissors, and made an easy incision in the iris, so as to enlarge the pupil near the centre of the eye. The whole went on quickly and without the patient's showing any signs of pain.

The eye healed soon, and vision was improved, "Still he cannot see what is on the ground immediately below him, nor distinguish objects clearly without his convex glasses."—In subsequent letters to Professor Maunoir from his patient, the recovery is stated to be still more complete. The following operation was performed by the professor in a case in which the right eye was affected with an opacity of the lens, and a complicated atrophy of the globe. There was also cataract on the left eye. Light could be distinguished from darkness. The pupil was very small, immoveable and evidently adherent to the opaque capsule of the crystalline. "I made an incision in the cornea, rather smaller than if it had been for extraction. Then with the pointed blade of my pupil scissors, I penetrated the iris at its inferior part, at the distance of a line from the circumference. I brought the blade in a vertical direction, as far as behind the crystalline: and when it arrived near the superior part, I shut my scissors, and thus cut the crystalline, its capsule, and the iris itself, in the direction of its axis or vertical diameter. The pupil immediately became larger. The two segments of the capsule were separated, and shewed a broken crystalline of a bluish grey (that of the capsule was a yellow white.) It became very easy to extract the crystalline, piece by piece, with a small scoop; and I then took out with the pincers the largest segment of the opaque capsule where it adhered slightly to the iris. The pupil, rendered larger by the double section

of the iris, remained, after the operation, of a very good size, and in the form of a weaver's shuttle. In consequence of which I abandoned the idea of extracting the other fragment of the capsule, as the taking it a way would have made the pupil too large."

Cases shewing the coincidence of worms in the intestines with Hæmoptysis, and remarks on the probability of the two affections having a connexion with each other. By NATHANIEL RUMSEY, Esq. Surgeon.

Three cases are related by Mr. Rumsey, in which hæmoptysis occurred in individuals who were troubled with worms. In the first tænia existed, in the others lumbrici. In the first and third the hæmoptysis was attended with convulsions. The expulsion of the worms in these cases by ol. terebinthinæ and other means, was followed by relief of the hæmoptysis in all the cases and ultimately by its cure in two. These facts are interesting inasmuch as considerable organic lesion of the lungs may be the consequence of the intestinal irritation, if unnoticed or neglected, and incurable phthisis be the consequence. Mr. Rumsey quotes from Morgagni some passages which show that he thought worms capable of producing pulmonary disease. Dr. A. P. W. Phillip's paper in the second part of the seventh volume of the Medico-Chirurgical Transactions is also referred to, to show that a morbid state of the digestive functions may produce phthisis pulmonalis. Abernethy and Cheyne are quoted to show the occasional connexion between hæmorrhage from the nose and disorder of the chylopoietic viscera. The diagnosis in cases of hæmoptysis produced by worms, is not very well established. In two of the above cases convulsions were present. This may assist in distinguishing this from hæmoptysis occurring under ordinary circumstances. The fact of recovery too, from very alarming symptoms by removal of the worms, will farther assist us in distinguishing this from an idiopathic affection of the organ. Mr. Rumsey has employed ol. terebinth. in cases of lumbricus, with excellent effects. He is disposed to think that uterine hæmorrhage may be produced by worms. In two of the cases related by him, hæmorrhage from the uterus existed, and at the close of his paper, a case is mentioned still under treatment in which excessive perodical uterine hæmorrhage occurs in an individual who has suffered greatly from lumbrici.

Two cases of Aneurism, in which the temporary ligature was employed. By B. TRAVERS, Esq. F. R. S. Vice President of the Society.

In the first of these cases, Smith, the ligature remained on the artery fifty hours, and the aneurism was cured. In the second, Edgecombe, the ligature remained on 27 hours, the disease was not cured. In this latter case the ligature probably occasioned some impediment to the circulation, for the pain in the aneurismal tumor, and the pulsation were diminished, and Mr. Travers even entertained a hope that the cure was gradually accomplishing. "But this," says Mr. Travers, "was fallacious; and I may observe, that no such expectation ought ever to be entertained while the pulsation in any degree of the aneurismal sac continues. For the establishment of a collateral circulation is insufficient for the cure of the aneurism, while the sac continues to receive a full jet of blood."—"Let me repeat, that non-pulsation of the sac is a sign auspicious or otherwise, simply as it stands connected with increase or diminution of bulk and pain."

"It is scarcely necessary to add to the narration of this case, my determination to relinquish the use of the temporary ligature. I should regret to hear of a repetition of the experiment, being unable upon reflection to discover a single circumstance tending in any degree to impeach its accuracy. But I am far from feeling regret that a practice has been fairly tried, of which I am free to confess I had formed too favourable an opinion; on the contrary, it is to me a source of high satisfaction, that the decision of the question which I deemed of importance, has been obtained without loss of life or limb. The grounds of my expectation, and the motives which led me to institute the practice, will be seen by a reference to my papers in the fourth and sixth volumes of the Society's Transactions; and it remains only that I should add one or two inferences from the above cases, before finally closing the subject.

"1st. It appears that a ligature upon the divided carotid of the horse applied for twelve hours, may be removed without hæmorrhage;* whereas the removal of a ligature upon the femoral artery of the human subject in twenty-seven hours, is followed by the return of the circulation in the vessel.

"2dly. That although a ligature upon the carotid of a horse applied for six hours, has in a period of seventy hours been followed by a complete obstruction of its canal;† a ligature ap-

* See Med. Chir. Trans. Vol. VI. p. 637, 640.

† See Med. Chir. Trans. Vol. VI. p. 647.

plied for twenty-seven hours upon the human femoral artery, has scarcely afforded a perceptible impediment to the blood. Is the variation to be referred to a difference in strength or susceptibility of inflammation? or to the influence of the mind upon the circulation? Does the comparative slowness of the circulation in the horse, or the difference in the force and direction of the current in the carotid and femoral arteries explain it?

"3dly. The adhesive union is prevented by the inclosure of a foreign body in a wound, long before suppuration has commenced. Suppuration is as certain to take place, though the ligature be removed after a few hours, as if it were left to be cast off; and the granulating process is more languidly performed after an interruption in its early stage, for the purpose of removing the obstacle to union, than where no such interruption has been given, and the obstacle has been removed by nature's own means. Hence it follows, that the theory, which, in removing the ligature within a given time, proposed the double advantage of a quicker as well as a surer process, fails in both points when brought to the test of practice upon the human subject. I might add for the sake of comparison a third case, in which I left the ligature to nature, and it was cast off on the 19th day, in the highest degree satisfactory. But this operation is sufficiently established and appreciated, and I am disposed to believe that, when properly performed, it admits of no improvement."—In looking back on the inferences drawn by Mr. Travers from his cases, two facts are stated deserving particular notice. The first is the marked difference in the results of experiments made on the arteries of the horse, and of operations performed upon the same vessels of the human body. Is this fact to be regarded of a wider application, and if so, what is the real worth of comparative physiology; and particularly of comparative experiments to ascertain the operations of medicines, poisons, &c.? The second is rather obscurely stated in the first sentence of the third general inference; but is explained by what follows, viz. that the adhesive union is prevented by the inclosure or presence of a foreign body in a wound, even though for a period too short for suppuration to begin or to be caused by it. This inference may be regarded as established by the cases of Smith, and Edgecombe. A different one however may be drawn from the note below.*

* *Case of Popliteal Aneurism, on which the temporary ligature was employed.* By WILLIAM ROBERTS, Esq. Surgeon, of Carnarvon.—*Med. Chir. Trans.* Vol. XI. Part I.

"Mr. R. was led to this mode of operating for aneurism, from having had considerable irritation produced in the system, with sloughing of the part, in a previous case, where he used two ligatures and divided the artery between them.

Observations on some points relating to the Physiology and Pathology of the Ear. By JOSEPH SWAN, Esq. Surgeon of Lincoln Hospital.—“When the ears are stopped, and a watch is brought in contact with any part of the head, face, teeth, or neck; or if a stick, water, &c. be interposed between any of these parts and the watch, the sound will be heard as well as when the ears are open.” “If I stop my ears and rest my chin on the petrous portion of the temporal bone in a macerated skull, and place my watch in contact with any part of the skull, I can hear the sound perfectly. I saw a boy who was born deaf and dumb, but had been taught to speak, and when a watch touched the left side of his face, he could hear it; but when it touched any part of the right side he could not in the least.” “A man who was recovering from an illness, had become so deaf of the left ear, that he could just hear my watch when put very near it: he heard perfectly of the right ear. I desired he would stop his ears until he could not hear my watch when put nearly in contact with them; I then let it touch the left side of the face, &c. he just heard it; but when I let it touch the right side, he heard it distinctly.” Now under these circumstances how is sound conveyed. Is it conveyed mechanically through the flesh and bone? Mr. Swan thinks not; and that “it must be conveyed through some other medium, and that I believe to be the porta (portio) dura of the seventh pair of nerves, and some other nerves connected with it.” “On dissecting the seventh pair of nerves in man, I find at the bottom of the meatus auditorius internus a communication between the portio mollis and portio dura.” Comparative anatomy confirms this statement. Mr. S. considers these facts important, and admitting of practical application. The method of doing this however is not precisely indicated.

Account of a case in which some singular appearances were observed in the Ovarium and Female Bladder. By EDWARD PHILLIPS, M. D. of Andover.

In the first periods of this case the seat of disease was the bladder; at first, and from early life, dysuria was the leading symptom; some time after, inflammation of the bladder

“On the present occasion, he passed a single ligature round the artery, and, after an interval of 24 hours, removed it, which was done with great ease, from his having inserted a small bit of thread between the ligature and artery, as recommended by Dr. Jones. The lips of the wound were drawn together, and it was healed in eleven days.

“In this instance the plan succeeded; but we find that Mr. Travers, who recommended this mode of operating, has now given it up. Mr. Travers's reasons for so doing are subjoined by Mr. R. whilst their general truth is questioned.—*Med. Intelligen. No. XII.*

occurred, and was relieved by the usual remedies. Great uneasiness with considerable tumefaction were at times felt about the hypogastrium. She went to London on account of increase of symptoms, and was advised to take alterative doses of mercury combined with the extract of cicuta and oleaginous draughts.

Dr. Phillips first saw this patient Sept. 20th, 1817. Upon inquiry he learnt that for some weeks past the pain had been transferred from the region of the bladder to the left side. The functions of the bladder were duly performed, and the urine appeared healthy. Upon examining the new seat of pain, a large indurated tumor was discovered, somewhat oblong in form, extending from the situation of the spleen to the umbilicus. This was pronounced a diseased ovarium. The patient grew worse, and died in the greatest distress from difficulty of respiration, produced by tumefaction of the abdomen, Nov. 10th. Dissection, fourteen hours after death. About two gallons of water mixed with blood escaped upon opening the abdomen. Left ovary enlarged to size of the human heart. It contained a fluid resembling clouted cream, and in the centre a tuft of hair of the size of a hen's egg. The bladder contained a similar fluid and a large tuft of hair. The coats of the bladder were much thickened. "The urethra appeared to have no direct communication with the bladder, at the under and posterior part of which there was attached a small cyst having the same cream-like substance before described, and also a quantity of hair, and what is deserving of particular notice, there was a perfectly formed incisor tooth having the enamel, and its fang firmly attached to the coats of the cyst. This cyst or cavity had a communication with the bladder by means of three small foramina, and it communicated also with the urethra on its anterior part." In a note it is added, "on examining it, more accurately, it was found that the tooth was imbedded in a portion of bone resembling an alveolar process."

An account of a Congenital Monstrosity. By G. BRESCHET, M.D.

On the comparative infrequency of Urinary Calculi among sea-faring people. By A. COPLAND HUTCHINSON, Esq. Surgeon, &c. &c.—Abundant evidence is brought forward in this article from the most respectable authority, in confirmation of the point, which it is its object to establish. Mr. H. in the next place inquires into its causes, and endeavours to explain the fact, in the first place, by referring it to the kind of food habitually used by sea-faring people. This is salt beef and pork. This food is least disposed to become acedent of all others; preserves the digestive organs in a healthy state, and thus prevents the

production of one of the most powerful causes of calculus, viz. a morbid state of the chylopoietic viscera. This diet is in a considerable measure continued on shore, for though vegetable food there bears a greater proportion in the ingesta than it possibly can at sea, and fresh meat is used, still the quantity of salt required by sailors in their food is so great, as to preserve that tone of the organs, which has been produced by a more entire use of salt provisions. They drink good beer also at this time, of which in the service a gallon is allowed a man a day, and in want of this at sea, a pint of wine or half a pint of spirit previously diluted with three parts of water, is the allowance. Mr. Hutchinson in the second place, in seeking the causes of the exemption in question, refers to the state of the skin, in regard to the perspiratory function. In the service, from the want of room for the easy accommodation of large crews, not more than fourteen inches is allowed a man for his hammock, and from sleeping on the lower deck, the ports are necessarily closed all night. The consequence of such an arrangement is a close hot atmosphere, and the effect on the seamen is visible in the free and full perspiration which always attends their sleeping.

In the third place, seamen in the round of duty in the English service, pass at least some of their time in tropical climates. This favours still further the free state of perspiration to which the other habits of sailors subject them. This class of men in the third place are perpetually active. They have constant occupation, and are habitually laborious, as well as regularly occupied. In another circumstance they are somewhat peculiar. "I have frequently observed in common with other officers," says Mr. H. "that sailors never fail to empty the bladder on the first symptoms of distention; and the facilities afforded them as far as regards unmixed society and locality favour greatly this salutary habit. It is also of importance to notice, that no description of people are less subject to dyspepsia, or more prone to strictures in the urethra." We have spoken of seamen engaged in the naval service of G. Britain. The exemption from calculus in them may seem to depend on the regularity observed in all their habits, and it may hence be inferred that in other seamen it will not be found. It appears however from ample testimony that this restriction is by no means warranted by facts. As a class, under all circumstances in which the profession may be pursued, exemption from calculus in sea-faring men exists in an extent, hardly diminished by a solitary exception. "From various parts of the preceding premises," says Mr. H. "we may with some degree of probability infer, that animal food, combined with a certain portion of the muriate of soda, in conjunction

with farinaceous aliment, on which seamen principally subsist, are favourable to the prevention of calculous aggregation." The food let it be understood should be saturated with salt. From the almost total absence of calculous complaints in tropical regions, it is suggested that sudorifics might be useful, and that Dover's, powder, and tartarized antimony, might be useful as prophylactics or as remedies,—all acedent food whether solid or fluid should be avoided, and exercise most rigorously pursued.

Further observations on the proximate principles of the urine. By W. PROUT, M.D.—“The principles of which I purpose at present to speak, says Dr. P. are lithic acid, oxalic acid, and cystic oxide; and my object will be to point out the relation of these different principles, and of urea and sugar formerly described, with the albumen of the blood. I have still doubts respecting the composition of the phosphates, and therefore postpone the consideration of them for the present.” It would be difficult to abridge this article, and we have not room to publish it entire.

In a note to Mr. Rumsey's paper, published at the end of this volume, it is stated that the subject of his third case has recovered perfectly, and another case is related in which the occasional connection between hæmoptysis and intestinal worms is further shown. Two ounces of oil of turpentine were given at once in this case. In six hours after, as no alvine evacuation had occurred, two ounces of *Ol. Ricini* were given. In half an hour a narrow tape-worm, nine feet and an inch long, was discharged. This patient had suffered for some time with symptoms of tape-worm.—He is rapidly recovering.

ARTICLE VII.

Medical Dissertations on Hemoptysis, on the Spitting of Blood, and on Suppuration, which obtained the Boylston Premiums for the years 1818 and 1820. By JOHN WARE, M. D. Fellow of the Massachusetts Medical Society. 8vo. pp. 95.

SOME years ago a distinguished patron of Medical Science, WARD NICHOLAS BOYLSTON, Esq. of Boston, appropriated a fund, the interest of which, in the form either of medals or money, was to be given as prizes for the best dissertations upon questions connected with medicine and its branches. This fund is under the direction of the University, and gentlemen of learning and experience have been appointed as a board, whose duty it is to propose the questions, to receive the dissertations, and decide upon their comparative merits, and to publish the names

of the successful candidates. The dissertations have each a mark or motto affixed, which is accompanied with a sealed letter having the same mark or motto on the outside, while on the inside is written the name of the author. The letters which are sent with the unsuccessful dissertations are not opened, and their authors thus remain unknown. Prizes have now been distributed for several years, and for the most part among medical students, or the junior members of the profession. The institution has been, and we presume will continue to be, of great utility, as it excites emulation among those who are coming forward in professional life, and feel a laudable ambition to be distinguished, and as it leads directly to important investigations, which are pursued with more zeal and with greater accuracy, than if they constituted a part of the ordinary routine of medical study. The two dissertations of Dr. Ware, which we are now about to notice, are some of the valuable fruits of Mr. Boylston's love of science and mankind.

Dr. Ware supports the doctrine that hemoptysis is for the most part owing to anastomosis, in support of this opinion he brings forward the arguments of Bichat, and further illustrates his hypothesis by the following observations.

“ If we believe hemorrhage to arise in consequence of rupture, the quantity of blood which is sometimes suddenly effused makes it necessary to suppose either that a large vessel or a large number of small ones are ruptured. If a large vessel were ruptured, we ought, as Bichat observes, to discover it on the dissection of those who die from hemorrhage ; and besides, this disease exists frequently in those mucous membranes which have no large vessels, as in those of the nose, ears, &c. In addition to these objections we may ask, how, if the blood be effused from a large vessel, can we account for its being arrested by bleeding and astringents taken internally, remedies which have no effect on the orifices of vessels wounded in any other way ?

“ If we recur to the other explanation, that the small vessels are ruptured, we shall not find this more satisfactory. The rupture must be produced by some internal cause, and the congestion of blood in the vessels is usually supposed to be this cause ; even Bichat allows that this might possibly be the case. But how and why is this congestion to rupture the coats of the small vessels ? To do this, it ought to be formed and supported by the *vis a tergo* of the large. But it is not probable that the large vessels can produce a congestion in any part, unless an affection of the small vessels themselves exist at the same time. The increased action of the large vessels is a consequence and not a cause of the engorgement of the small ones, and will therefore be only proportionate to the increased quantity of blood, which is demanded by them, to support their altered state of action. Since the congestion, then, is a consequence of the state of

action, or of some modification of the vital properties of the extreme vessels themselves, it appears incredible to suppose, that an affection of their own should draw into them a quantity of blood sufficient to rapture their coats." pp. 9, 10.

The author goes on to show that the changes which thus take place in the extreme vessels, the most obvious symptom of which is hemoptysis, are not greater than those which accompany inflammation; and this gives him an opportunity to state the analogy which appears to exist between these two processes. In doing this, the theory of the morbid phenomena which precede and accompany hemoptysis, is thus developed. We shall give it in the language of Dr. Ware.

"The phenomena in hemorrhage, and their explanation, resemble very closely those of inflammation. There is every mark of preceding irritation and congestion, as is evident from the symptoms of hemoptysis. Indeed, the first approaches of pulmonary hemorrhage might easily be mistaken for those of an inflammation of the lungs. The local affection differs principally in the circumstance of the effusion of blood, and were it not for this, the two diseases would be nearly the same. But is not the passage of the blood from the mouths of the exhalants a phenomenon of almost exactly the same kind, with some of those which take place in inflammation? In the serous membranes, for instance, the small vessels do not naturally give passage to red blood. Irritate them so as to produce inflammation, and this fluid immediately penetrates them. Now, would not a similar change, in the state of the exhalant vessels of the mucous membranes permit the effusion of blood, instead of that of mucus? These circumstances seem to me to stand on precisely the same ground, except that in the serous membranes, the vessels, whose vital state is thus altered, do not terminate in open mouths, as those of the mucous membranes do. A similar comparison might be made with respect to many other phenomena of inflammation; but I would only observe, that there seem to be sufficient grounds for regarding the admission of blood into vessels which do not commonly transmit it, the effusion of coagulable lymph and the secretion of pus, as circumstances of the same kind with the exhalation of blood from mucous membranes, and depending on a like cause. This cause, probably, consists in some increase, or alteration (of the nature of which we are entirely ignorant) in the vital properties of the part affected. These observations are confirmed in some measure by a symptom which has been often observed to precede hemorrhages. Before the discharge of blood commences, there is an effusion of a serous or mucous fluid in unusual quantity; and this seems to denote that a gradual change is taking place in the state of the vessels, from their ordinary degree of vital power, to that which enables them to discharge blood. This circumstance has been remarked in hemoptysis and with respect to the menstrual discharge. I have also observed

it twice in bleeding from the nose. Dysentery affords much to confirm what has been remarked. The different appearances of the evacuations in this disease, varying from pure mucus to almost pure blood, with all the intermediate degrees of mixture, seem to be a consequence of the different degrees of alteration which the exhalant vessels have undergone in different portions of the intestinal canal. In this disease hemorrhage seems clearly to be only one among the symptoms of inflammation. Are we not therefore justified in adopting the same opinion with respect to hemoptysis, to say nothing of any other hemorrhage? This view need not interfere with any practical distinctions, which will continue as well defined as they are now." pp. 11-13.

These observations are not intended of course to apply to passive hæmorrhage. In the last the congestion is less or does not exist, and the blood is inferred to flow merely from an adynamic state of the vessels.

Dr. Ware then states his view of the remote causes of hemoptysis. He conceives that the flow of blood is not owing to general plethora, but to local affection and congestion, and that hæmorrhage is the natural method of relief. In what state of the vessels it consists is not known, but he thinks that hæmorrhage instead of disease, is in most cases to be considered as a symptom of disease, that predisposition to hemoptysis indicates a predisposition to phthisis, and that the tendency to the latter probably consists in some modification of the vital powers of the lungs or their vessels. This predisposition to hemoptysis and consumption may have existed from birth, and in such cases the external marks, as described by Dr. Ware, are such as will lead us to recognise them without much difficulty. But the author goes farther, and thinks that as accidental causes may bring into action the morbid phenomena to which there may have been originally a tendency or predisposition, so "it appears reasonable to conclude, that a cause, which applied in a certain degree is capable of developing a predisposition, may, if applied in a greater, produce the predisposition itself." That causes applied to healthy persons may by their activity produce diseases similar to those which appear in others, in whom there existed a predisposition to them we do not deny, but we are not satisfied as to the general fact that in the former a predisposition may be acquired, which after an indefinite time may be developed. This question however involves so much argument that we have not space for the discussion.

The causes of hemoptysis are generally such as produce an increase in the rapidity of the circulation in general, or that of the lungs in particular; among the former are ranked great external heat, and violent exertion of the muscles in athletic ex-

ercises ; and among the latter public speaking or singing, shouting loudly, &c. &c. another cause of hemoptysis noticed by Dr. Ware, is the suppression of accustomed evacuations, such as the catamenia, piles, &c. and to account for this vicarious office if it may be so termed, of the lungs, the author has adopted the great principle of Bichat, that there is only a certain sum of the vital powers apportioned to the system at any one time, and that when these powers are accumulated at any time in any one part they are proportionally withdrawn from other parts of the body. The observations of Dr. Ware, on this point are ingenious and expressed in clear and definite language.

The symptoms which precede and accompany hemoptysis are thus described.

“ In whatever manner hemoptysis is occasioned, it generally comes on with very nearly the same symptoms. The discharge of blood is preceded by a weariness and lassitude affecting the organs of motion, a shivering sensation and constriction of the skin—by a coldness of the extremities—a sense of weight or anxiety about the precordia—a slight degree of pain in some part of the chest—a sensation of heat or of burning under the sternum—and by a shortness and difficulty of breathing increased by moderate exercise. These symptoms may have existed for a longer or shorter time before the hemorrhage occurs, but sometimes it comes on suddenly without any such warning, the flow of the blood being the first symptom observed. This is said frequently to be immediately preceded by a saltish or brackish taste in the mouth, the cause of which, if it be any thing more than the fancy of the patient, is probably owing to a sympathy of the organ of taste with the diseased part. A slight tickling is felt at the top of the windpipe, which excites a coughing to relieve it. This brings up the blood from the lungs, of a florid, arterial colour, and of a frothy appearance, at first in a small quantity, but the irritation continuing more is brought up in the same way, with a rattling noise in the windpipe, as of air passing through a fluid. In some instances, only a few mouthfuls are thrown up, before the hemorrhage ceases ; in others, a slight spitting continues for several days together, and sometimes, especially when it has repeatedly occurred, it is in great quantity, and the blood is thrown out so copiously, that the patient seems rather to be vomiting than coughing it up. It is seldom that the hemorrhage is so abundant as to cause death either by suffocation or exhaustion. It generally ceases spontaneously, when sufficient blood has been poured out to relieve the vessels of the lungs ; or it is checked by the use of remedies.

“ Hemoptysis affects the system generally, and produces symptoms of the same kind, as those which accompany inflammations of internal organs. These are usually known by the name of the sympathetic fever, and are of two kinds, *Symptoms of General Inflammation*, and *Symptoms of Irritation*. The differences between them it

is not necessary to describe, as it has been so frequently and so accurately done, as to be sufficiently familiar to physicians. The latter, *Symptoms of Irritation*, are most usually attendant on the disease under consideration; and accompany especially those cases which result from predisposition, and are introductory to phthisis pulmonalis. The former, *Symptoms of General inflammation*, occur often in those instances arising from the common exciting causes of disease, and which are therefore less likely to terminate in pulmonary consumption." pp. 22—24.

Of the varieties of hemoptysis, in relation to its causes Dr. Ware innumers five; 1. That which results from external violence; 2. The hemoptysis which is produced by the ordinary causes of inflammatory disease and accompanies symptoms of general inflammation; 3. This kind is only one of a series of morbid phenomena, constituting pulmonary consumption; 4. Hemoptysis from suspended or suppressed discharges; 5. Passive hæmorrhage.

We shall now advert to the author's mode of treatment. Of the remedies employed the first and most important is bleeding.

"Blood-letting is indicated by every view which we take of the nature, the symptoms and course of this disease. As a remedy for inflammation, it seems best calculated to remove the danger, that suppuration and ulceration will follow the hemorrhage. Writers in general have recommended to confine its use to strong and plethoric habits; but I do not see why this should be thought to make so much difference. Do we find that those of weak and slender habits are more debilitated by bleeding, than those who are stronger? At any rate, are the bad consequences of the operation so grave and dangerous, as those which ensue from hemoptysis? And does it not as often prevent these consequences from taking place in those who seem to have no blood to spare, as in those who are full of it. If they are not liable to bear the operation of the remedy; they are still less able to support the disease. It may be said that our opinions are derived from theoretical views with respect to the nature of hemorrhage; but is it not theory which restricts bleeding to those who are in vigorous health? We ought undoubtedly to have some regard to the power of the system to repair the loss of blood. There are certainly cases in which this remedy is improper; but in any subjects, with respect to whom it would be adopted were they attacked with inflammation of the lungs, there seems to be no danger in resorting to it in hemoptysis.

The degree and extent of the bleeding must be regulated in every case by the symptoms and the effects of the remedy. More copious depletion can generally be borne in the first, second, and fourth kinds of hemoptysis, than in the third, although the actual advantage to be derived from the operation may not be less. When hemoptysis occurs after phthisis has made considerable progress, it is evident, that,

as we cannot promise ourselves a cure from it, many of the above arguments in favour of its employment do not apply, and the debility which it might produce would perhaps hasten the fatal event. Still, even in this situation, if the digestive powers continue in considerable vigour, small and frequent bleedings will often serve to remove some urgent symptoms, without much fear of any injurious consequences. Should this, however, not be the case, this treatment becomes of very hazardous application, and it is safer to confide in some measures of a milder and perhaps as effectual nature.

"We are however to be governed in our treatment of hemoptysis, rather by a regard to the state of the general health and the other indications of pulmonary affection, than to the simple occurrence of hemorrhage. If we consider this as merely one symptom out of many, which collectively indicate some disease of the lungs, there is no reason why we should direct our practice wholly by an attention to this particular. Does the spitting of blood ensue from a suppression of the catamenia? There is no more urgent call for vigorous practice, than if the hemorrhage were from the nose or the stomach; unless, at the same time, there are circumstances leading to the belief, that the disordered state of the catamenia has produced, not merely a vicarious discharge of blood from the lungs, but has likewise impressed upon them a tendency to disease. Does it arise in the course of pulmonary consumption, at an earlier or later stage? There seems to be no sufficient reason why we should bleed for this symptom, more than for any other of equal importance which may arise in the course of the disease. And we may perhaps fairly say, that where we should think it right to bleed for an increase of cough; a pain in the side, a difficulty of breathing and expectoration, when these are urgent, we should also be justified in bleeding for such spitings of blood as occur in the course of pulmonary consumption.

"These remarks, it will be observed, are not intended to deter from venesection, when hemoptysis is the leading symptom of phthisis, or when it arises from ordinary causes. In these cases, though not even in these without exception, it is eminently applicable; not simply because of the spitting of blood, but because there is generally a state of system and of local disorder, which would demand the remedy, were not blood effused." pp. 27—30.

These remarks are followed by some judicious observations on the use of emetics and cathartics and of external irritation by blisters, &c. the last of which he deems, and justly so, to be of great importance.

After hemoptysis has ceased the next object is to prevent those changes from taking place in the lungs, to which there is a strong tendency and which terminate in consumption. This is to be done by bleeding if it appear to be required, by constant external irritation, and by a strict attention to the general health. While speaking of the last, the author has an oppor-

tunity, which he does not neglect, of adverting to the tendency of a certain class of individuals, to hemoptysis and consumption. This class embraces public speakers and particularly clergymen. Several pages are devoted to the purposes of pointing out the causes of the liability of this class to the diseases above mentioned, and the means by which this tendency may be checked or removed. He has occasion to give a general history of dyspepsia, and to advert to the principles adopted by Mr. Abernethy in its cure. The observations of Dr. Ware, on these points, are extremely valuable, and we wish they might be read by all those who are entering upon the duties of the profession above alluded to, and indeed by all others whose occupation is sedentary. This subject we had previously noticed in the review of Dr. Armstrong's work on scarlet fever, measles, and pulmonary consumption in the IXth Vol. of this Journal, and to this likewise we would take the liberty of referring our readers.

In the dissertation on Suppuration, the author displays in an able manner the modern doctrines on this subject, and brings forward many ingenious speculations on the processes performed. We refrain from an analysis of this dissertation from a belief that it will soon be in the hands of all our readers. These dissertations are highly honourable to their author. We regret we cannot make some extracts, which contain very useful practical views in relation to suppuration as occurring in various organs, particularly in the breast of the female. We cannot conclude this article without again recommending these Dissertations to the profession.

SELECTIONS.

[While this number was going through the press, we received the December numbers, of the *Medico-Chirurgical Review*, and *Journal of Medical Science* (No. 3, of the Analytical Series,) of *Tilloch's Philosophical Magazine and Journal*, and of the *Medical Intelligencer* ; and with these, the January numbers, of the *Edinburgh Medical and Surgical Journal* ; of the *London Medical and Physical Journal*, and of the *London Medical Repository*. We offer our readers such extracts, and notices as our limits and time will permit us to make.]

From the *Medico-Chirurgical Review*, so ably conducted by Dr. J. Johnson, we extract the following :

*Thoracic Affections.** In acute diseases of the thoracic organs it is often highly desirable to establish a counter-irritation on the skin, by a shorter process than blistering with the lytta—while, in chronic affections, a more permanent drain than that caused by vesicatories, is generally necessary. Our continental brethren are now employing the liquor ammoniæ, lowered more or less with oil, to effect both the abovementioned purposes, and this measure we particularly recommend to the notice of the profession in our own country. If a sudden impression is wished to be made on the surface, one part of oil to two liquor ammoniæ will rapidly blister the skin, and produce a considerable discharge afterwards. If kept on a portion of surface, for instance, with a large cupping glass, for an hour or two, an eschar will be formed, and thrown off, leaving a complete caustic issue or drain, which may be kept open for any length of time, and give exit to a great and permanent discharge.

The more easy and practical way is, to cut a hole in a sheet of adhesive plaster, the size of the required issue, and after the plaster is placed on the part, let a few folds of linen wetted in the ammoniated oil, be applied over the whole, and retained there for two or three hours, after which, a poultice may be kept on till the eschar falls off.

M. Vaidy conceives, and we agree with, that the measure in question, is a most valuable resource when we have to deal

* *Reflexions sur l'emploi de l'ammoniaque, comme moyen propre à établir des exutoires.* Par M. VAIDY, *Journal Complimentaire*, August, 1820.

with timid patients, who are afraid of setons or the moxa. He thinks too, that the ammoniated issue is preferable to either of these means.

P. S. Since writing the above, we have seen some communications from Dr. Kennedy in the last number of the *Ed. Journal*, on the use of nitrous acid, as a substitute for blisters, where a sudden counter-irritation is wanted. It has been used in India, by Mr. Killet and Mr. Scott, for the treatment of the spasmodic cholera, and with advantage. They used two parts of acid to one of water, with which mixture, the surface is to be rubbed till the patient begins to complain of pain, when the acid is to be neutralized by washing the surface with a solution of salt of tartar. The cuticle can then be easily detached, leaving the cutis raw and denuded, to which, if necessary, the unguentum or emplastrum lyttæ may be applied to keep up the discharge.

*Bursting of the Urethra.**—This is a most serious accident, and, as Mr. Bell justly observes, belongs to the higher departments of surgery, requiring a perfect acquaintance with the principles of the art, and a dexterous hand—one not partial to operations, yet not hesitating to do what appears bold, when the occasion calls for it.

“When the patient has had a stricture attended with much irritation in the perineum and neck of the bladder—when he has to strain and force to pass a few drop of urine—when the urine feels scalding hot—when the patient, on closing his legs, has a sensation of a tumour betwixt his thighs, though there be no such tumour there; then he is in danger of an extravasation of urine.” 198.

If a patient with an irritable stricture has had the bougie introduced in such a manner as to induce inflammation and strangury, followed by cold shiverings, and then a hot stage—when there is a sensation of tenderness, heat, and swelling in the perineum, with violent forcing pains to make water, there is danger of the inner membrane of the urethra giving way and permitting the urine to escape into the cellular texture of the scrotum and penis.

After these symptoms have continued some time, the patient feels that, at last, the water is flowing; but it does not appear outwardly. By and bye, the scrotum becomes enormously distended, the patient is seized with shivering, &c. If the swelling be not immediately relieved by incisions, the integuments of the

* Mr. Charles Bell's *Treatise on the Diseases of the Urethra, Vesica Urinaria, Prostate, and Rectum*. New Edition, 1820.

penis are distended, and the extravasated urine will spread over the pubes, lower part of the abdomen, and even the loins. The consequences are often terrible. A dark inflammation affects the skin that is undermined with urine—the skin sloughs—the whole scrotum separates, and leaves the testicle exposed.

Mean time the violence of the fever subsides—the pulse is quick and feeble—the countenance changed—the features shrunk—and gastric irritability with hiccup sets in. The patient sinks, if not supported. Mr. Bell, after relating a great number of most interesting cases, which cannot be too often studied by the surgeon, makes the following observations :

“ 1. It appears that punctures of the scrotum are insufficient even to empty the cellular texture of the extravasated urine, and quite unfit for preventing the urine taking the same course a second time. If the lancet be used, the shoulder must be moved, while the point is kept at rest, so as to make a large opening in the skin.

“ 2. For the most part, the urine bursts into the perineum, and is carried by the fascia of the perineum forward into the looser scrotum. In this case the opening into the scrotum must be at the back part, and the point of the instrument directed backwards, so as to cut freely through the fascia, and give issue to the urine as it escapes from the perineum.

“ 3. But it will be seen here, that the extravasation takes place sometimes more anteriorly, and the *œdema* of the preputium is the first sign of the approaching danger. In all cases, therefore, it is proper to sound the urethra with a bougie (and this should be done in the gentlest manner,) to ascertain the place of stricture, that the puncture may be directed with reference to the spot from whence the urine issues from the urethra, and which is always behind the stricture.

“ 4. The urine has a deadening effect on the cellular membrane, when it is permitted to fill the integuments. When in a smaller quantity, and with diminished force, it produces a blush of erysipelas, which subsides and rises again in the form of more phlegmonous inflammation. This was particularly the case in two instances, and the fever and the hard swelling of the skin required cold and sedative applications.

“ 5. In most of these cases, the yielding of the urethra was preceded by a state of much excitement and irritation. An ulceration of the urethra is a consequence of this irritation, and the membrane is thereby weakened. The push of urine bursts through this tender part, before there is consolidation of the surrounding parts, or before the cells of the common texture are glued together by the process of inflammation. Hence there is

no limit to the flow of urine, and hence the dangerous nature of the accident: for the general powers of the system quickly sympathize with the death of the part, and fall low; and there is a just apprehension of the patient sinking.

"6. The circumstance of irritation preceding the rupture, teach us to be particularly cautious either of exciting the urethra by interference with instruments, or of permitting a fever to be raised by imprudence on the part of the patient, in a certain state of stricture with irritation. I need not here repeat what may be the dreadful consequences." 237.

This view of the subject teaches us also that when the urethra is burst, and free passage is given to the urine, we must make it a principal object to allay irritation. It sometimes happens too, that after we have made a free passage for the urine, the integuments of the penis are again puffed up by a *serous* effusion, the consequence of inflammation.

If we see this state early, or when forming, it is best treated by cold applications—if late, or when formed, with tepid fomentations. If it be confounded with a urinous tumefaction, and a catheter introduced to draw off the water, the swelling will increase, and terminate in suppuration.

Upon the whole, this section of Mr. Bell's work abounds in important matter and solid instruction for the practical surgeon.

London Medical Repository.

Colchicum Seeds.—Mr. Williams has published in this number three cases of Venereal Rheumatism, in which he employed the seeds of the colchicum. In the first case syphilis was contracted in December, 1807. In 1808 the patient was first seen by Mr. W. The usual means were used for removing the various constitutional symptoms of syphilis then present, and with relief. In 1809 he was again seen, and the rheumatic affection which was then prominent was again relieved. In 1809 he became the patient of a surgeon, who having tried the usual means ineffectually, Mr. W. recommended the use of the colchicum seeds in the form of the vinous tincture. A fluid dram and a half in *water* were given twice a day. In a fortnight an amendment was perceived, and in two months, nothing remained but a little weakness. The other cases go to confirm these statements. Mr. W. gives a decided preference to the *seeds* in comparison to the root of the colchicum. He represents the effects of the latter to be uncertain, and ungovernable in some cases, and states that he has known them in one case to prove fatal. He knows of no bad effects to have resulted from the use of the *seeds*, and considers them as suited to a far more extensive range of cases than the root.

In the analytical department of this number, a review is given of Mr. Haden's "*Practical Observations on the Colchicum Autumnale, as a general remedy of great power in the treatment of inflammatory diseases, both acute and chronic; and therefore as a substitute for bleeding, in disorders which are connected with increased action of the heart and arteries.*"—The following extracts exhibit the effects of colchicum, and the mode of giving it, as practised by Mr. Haden's father, with some remarks by Mr. H. the son.

"In the pure inflammations, he says, 'If it be given every four hours, until it produce an abundant purgative effect, the pulse will become nearly natural, from being either quick and hard, or slow and full. This frequently happens even before purging has taken place; and the effect is so certain, that I never bleed, unless inflammation exists to an alarming degree in a vital part, and then never more than once.

"'Fevers and inflammation so removed, never require the use of tonic medicines during convalescence; the patients indeed generally appear to be as well as though they had not been at all the subjects of disease; and although it sometimes happens that a recurrence of symptoms takes place, it is in a much milder degree, and the new disorder is always immediately removed in a few hours, by a very little of the same treatment.'

"With regard to chronic and less acute complaints, my father says, in his written communication—'In organic derangements of structure, when occasionally attended by inflammatory symptoms, the above treatment answers perfectly in curing the superinduced inflammation; so much so, that at times the general actions are so much subdued, as to give no notice, by symptoms, of the existence of the primary disease: thus, in one case, gangrene was going on in the foot, whilst the inflammation, which produced it, was subsiding under the use of colchicum. In chronic rheumatism, six grains, with one drachm of sulphat of potash, taken every morning, will, I believe, always answer. In some cases, however, many weeks elapse, before the patient is well; although, when patients have persevered, I have not known it to fail. In habitual discharges of blood from plethora, when under the ordinary treatment, frequent bleedings were required, the daily use of colchicum (as above) has answered very well indeed, as far as I have been able to try it. It has great influence in consumptions, but it does not remove the complaint. After accidents, its effects are sometimes extraordinary, if immediately given; it seems to have the power of averting the severe consequences which usually follow such cases.'

"In acute cases, he gives from two to eight grains of the powder, with a scruple or more of sulphat of potash, in rose

mixture, every four or six hours, increasing the dose after a few hours, until either purging is produced on the second day or third day, or the common black dose, or calomel, is given in addition. The medicine is now laid aside, if its effect on the disease be decided; or it is given in diminished doses, or one dose of six or more grains is given occasionally, with calomel at night.

"In chronic cases, one considerable dose of five grains and upwards is given every morning early, with a drachm of sulphat of potash, in a tumbler nearly full of warm water. In this form, it is continued for weeks together, other opening medicines, such as jalap, being added to it, as occasion may require."

To this account Mr. Charles Haden subjoins from his own observation—

"That the medicine will usually produce some relief on the second day; but not its decidedly beneficial operation till the third day, when purging generally takes place.

"In some cases, indeed, no relief occurs, even on the third day, when full doses of opening medicine are required, or it is necessary to increase the dose of colchicum; but, in others, the medicine purges on the second day, without producing a corresponding relief of the symptoms; or, the case is such, as to make much purging unadvisable: in these cases, a smaller quantity of the sal polychrest is given with the colchicum, or the latter alone, without admixture.

"In whichever of these ways the full operation of the medicine may be produced in the treatment of acute diseases, it is to be then discontinued; entirely, when the relief is perfect, or the actions of the constitution are subdued to the standard of health; or the medicine is given in less powerful doses, where any remains of excitement exist.

In chronic complaints, a small dose of calomel, or blue pill, and of aloes, with two or three grains of ipecacuanha, is usually given at bed-time, every night, and one or two of the drachm powders* in the day.

"In children and weakly subjects, the dose of the powder, in all cases, varies from sixteen grains to two scruples; so as to give from two to five or six grains of the colchicum, the full drachm containing about seven grains.

"It is necessary, however, to be cautious in taking these doses of the powder, as a general rule. As little even as three grains every six hours, will be sufficient to overcome common feverish attacks, especially in persons of but moderate powers."

Immediately following this review, is a paper by Mr. Rice, containing cases of acute diseases treated by the colchicum au-

* These drachm powders are composed of one part powdered colchicum, three parts of carbonate of potash, and four of sulphate of potash.

tumnales, viz. acute rheumatism cured by one dose of the tincture of colchicum. The dose was a dram and a half, given in an infusion of senna and salts. A case of puerperal fever,—one of erysipelatous inflammation, and one of erysipelas of the face. The colchicum in these cases was given in combination with other active articles, as sub-muriate of mercury, jalap, &c. and in the case of puerperal fever, free venesection was also practised. These facts will not allow the physician to place such a reliance on this article as if similar good effects had followed the use of the colchicum when given alone. It is no part of Mr. Rice's object to make this article supersede the employment of all known means for relief in these cases. The colchicum would seem however to have been a very useful auxiliary. He gave it in form of powders, five grains of the colchicum with five of jalap; in form of pills, containing the same quantity of the former with three of scammony, instead of jalap; and in the form of bolas, containing five grains colch. and five of calomel; also in powders, containing each three of colch. and twenty of sulph. pot.—The extracts from Mr. Haden, state the times and circumstances under which the doses are to be repeated.

PRUSSIC ACID.

[From the American Journal of Sciences and Arts, Vol. III. No. 1.]

Communicated by a Correspondent.

A writer, with the signature of W. in the last number of the New-England Journal of Medicine and Surgery relates three cases of the unfavourable operation of the prussic acid.

He commenced under the impression that the dose usually administered is from six to twelve drops, and says he began with four, and never increased the dose beyond ten drops given twice or three times a day. What physician, at all acquainted with the strength of this article as it is commonly employed in medicine, would not be prepared, on reading this paragraph, to expect worse consequences than what actually ensued.

But what result should we not anticipate from the unprecedented dose of eight drops to a child, only seven or eight years old!

It seems that the dose of the medicine was so great in the first case as to produce loss of sense and of motion; the same symptoms precisely which result from too great a dose of opium.

The unwillingness of the writer, at first, to refer these symptoms to their true cause, argues his inexperience in the use of the powerful medicine he was administering.

The second case above referred to, is one of a lady, who after taking a second dose of five drops, experienced a strange disturbance in the head, and symptoms of debility.

In this case "the patient had no suspicion she was taking a medicine possessed of any peculiar violence." Without adverting to the necessity of cautioning the patient of the power of any medicine, in order to ensure accuracy in the dose, we cannot help animadverting upon the impropriety of such bold prescription, in the case of a remedy of almost unexampled energy.

It is the gradual effect of the medicine upon the system, resulting from moderate doses, continued for some time, upon which all its medical efficacy depends.

Who can, with impunity, prescribe, in large doses, opium, digitalis, corrosive sublimate, or arsenic, or any of the more powerful articles of the *Materia Medica*? What violent and dangerous symptoms might we not reasonably expect, were we to prescribe for a dose, thirty-two drops of digitalis, or five grains of corrosive sublimate, or ten grains of arsenic? To obtain the salutary effect from any of them, they must be administered in smaller doses, and with the necessary precaution to the patient not to exceed the prescribed dose.

We would refer this writer to the researches and experiments of Magendie and others on prussic acid—by which we think he will be convinced that even prussic acid may be administered with safety if administered also with due caution.

MEDICUS.

We copy the foregoing article, because a reply to it seems necessary, not from regard to the reputation of our correspondent, but to guard against errors in the use of the Prussic acid. If the learned editor of the "Journal of Science" was as well acquainted with medicine, and particularly with the history of the *materia medica*, as he is with many other subjects, he would have hesitated before he admitted this *communication*. We will not advert to the countless number of articles, which have acquired reputation as valuable medicines, have enjoyed their day of glory and then have fallen into well-merited oblivion. Among articles of real utility instances have been frequent, in which indiscriminate praise has led to rash experiment, and the evil consequences have then caused a distrust of the remedy, and for a time an abandonment of it. Of all this, digitalis is a striking example. Now how are these evils to be avoided, unless by guarding the public, while the rage for a new remedy exists, against the dangers which may arise from it. That this was the intention of our correspondent is very clearly shown in the first and last paragraphs of his communication. He does not

decry the remedy, but he points out the evils, of which it is sometimes the cause.

But "Medicus" considers "W." as unpardonably ignorant in respect to the proper dose of Prussic acid. In reply let it be observed that if "W." knew that the dose usually administered by those in his vicinity was six or twelve drops, although he began with four, does not this show upon the ground taken by both writers, that "W.'s" neighbours required a caution? Yet even four drops is considered by "Medicus" as too large a dose. Is this warm advocate for the new remedy then to be informed that this medicine is employed of different strengths in different places? Indeed has he yet to learn that it is almost impossible to be sure what is the strength of this article at any moment; for all of it yet employed, so far as we know, has been so liable to decomposition that it would change almost from day to day. We confess for ourselves this has given us great distrust in the article, as well as great fear of bad effects from it in the hands of persons, who procure it from different places without being aware of the difference in the power of it.

We refer "Medicus" to Dr. Oliver's letter in the same number of the "Journal of Science," in which his communication appears. He will there see what Dr. O. says of the strength of his preparation. We can add, as showing the strength of that preparation, that some of it was sent to us for trial several years ago, before Majendie began to write on the subject, and that we carried the dose gradually to forty drops, three times a day, and then gave it up as perfectly inert. Although it was certainly intended that the parcel sent to us should be perfect of its kind, and although it retained its transparency entirely, yet we cannot now doubt that it had in some mode undergone a change of composition.

The article first and principally employed in Boston and by many who have been supplied from this place, since Majendie's publication, has been prepared according to Scheele's method, as recommended by Granville. It has been prepared with great care by a very good practical chemist. Yet its strength, as estimated by its effects on the living subject, has been much less than that employed by Majendie and by Granville.

We must notice one other remark by "Medicus." "It is," says he, "the gradual effect of the medicine upon the system, resulting from moderate doses, continued for some time, upon which all its medical efficacy depends." What says Professor Silliman's other correspondent, Dr. Oliver, whose experience of this medicine has been longer and probably fuller than that of any other person among us? He says, "I have generally

found it necessary to increase the dose of the acid until it manifests its effects on the system by producing a pain of the head, or dizziness." Now the difficulty pointed out by "W." is that under a gradual increase of the dose, this medicine will sometimes produce very unpleasant effects.

But who is right on the point above noticed, "Medicus" or Dr. Oliver? Certainly all analogy, in regard to medicines having powers similar to those ascribed to Prussic acid, will authorize the belief that Dr. Oliver is in the right. At least the rule is, in respect to such articles, to increase the dose until either sufficient good effect ensues, or until some symptom, marking the influence of the medicine on the system, is manifested.

It gives us pleasure to state that Messrs. Maynard and Noyes, of this town, have now a preparation of the *Medicinal Prussic acid*, which seems less liable to decomposition than any we have yet seen. In three or four months it has lost nothing of its transparency.—Ed.

Dr. Jno. A. Gorman, of St. Domingo, has sent for trial to one of the Editors, a specimen of a Bark lately discovered in that island, which is said to have the properties of Cinchona. So far as it has been tried here, it has appeared to possess considerable efficacy; and as its sensible qualities are more agreeable than those of Cinchona, it promises to be a valuable acquisition to the *Materia Medica*.

Dr. Albers, of Bremen, in a letter to one of the Editors, just received, mentions the successful termination of cases of carcinomatous os uteri, in which excision of the diseased part was practised. The operations were performed by Dupuytren, and were seen by Dr. A. during a late visit to Paris. The instruments employed were, first, a cylindrical speculum, which when introduced into the vagina enabled the operator, by means of a light held before its outer extremity, to see the diseased part, and, secondly, a long and strong pair of curved scissors, similar, it would seem, to those used by Professor Osiander, of Göttingen, a set of whose instruments is in the possession of one of the Editors. In some cases, caustic alkali was applied to the diseased parts.

The following cut gives a representation of the shape of the pupil in Prof. Maunoir's case, related page 192 of this number.



TO THE
Subscribers and Contributors
TO
The New-England Journal
OF
MEDICINE AND SURGERY.

WITH the next number the 10th volume of this Journal will be completed. In conducting this work the editors have not forgotten its original purposes,—to give early information to their brethren of what would be valuable to them from abroad, and to furnish additional means to what already existed here, for communicating such interesting facts and opinions, as might be collected in this country. The editors mean to continue these labours.

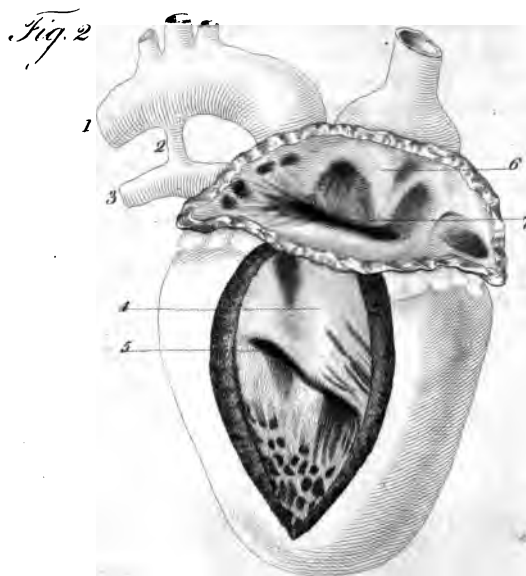
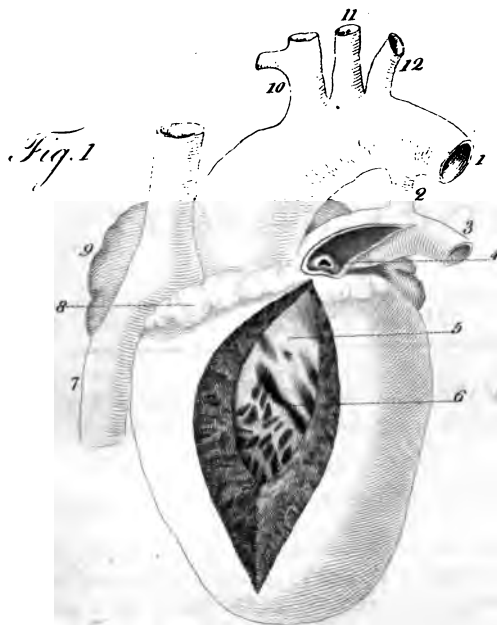
In the ensuing series, some change will be made in the terms of this Journal. An addition will be made to the number of its pages, and its price will be increased. It has heretofore been furnished at a price far below that of any medical publication of equal size or contents in this country. From a comparison, made by the length of the page, or number of lines in the page of this Journal, with a Medical Journal published in another state, it appears that with the difference of about 4 pages in the number, it equals that in *quantity* of matter; and if the difference in the length of the line be taken into the account, it is fully equal to it in *size, or expense of publication*. The Journal referred to is furnished at \$3 per annum, while the New England Journal is published at \$2.

In the following series, 32 pages will be added to each volume, and the price to subscribers will be advanced to \$3 per annum. The subscription as heretofore, is to be paid in advance.

The New England Journal has attained to an age not very common in the history of periodical works of this country. The number of subscribers to it has regularly increased, it has gradually improved in the style of execution, and the proposed alterations in the next series will furnish additional means of usefulness. The best European Journals are imported by the editors expressly for its use, and such arrangements have been made as will insure their earliest arrival here. The analysis of the latest French Medical Review, begun in the present number, will be regularly continued, and will furnish an outline of the state of medical opinions and practice in France.

The editors of this Journal are not unmindful of the valuable assistance they have received in the communications which have been made for it, by its friends: and while they thus acknowledge their obligations to those who have contributed to its usefulness and reputation, they solicit for it a continuance of their favours.

Boston. July. 1821



The New-England Journal

OF

MEDICINE AND SURGERY.

Vol. X.

JULY, 1821.

No. III.

A remarkable case of Malformation of the heart of a boy, aged 13 years and 6 months. By CHARLES A. CHEEVER, M. D.

(WITH A PLATE.)

[Communicated for the New-England Journal of Medicine and Surgery.]

THE history of a case of malformation of the heart, as we cannot hope to correct the natural imperfections of structure in so delicate an organ, may be said to be of no practical benefit. But such a description will not be altogether useless or uninteresting, if, while it assists us in forming a correct diagnosis, it at the same time contributes to a more perfect knowledge of the functions of the heart, and of those organs with which it is immediately connected. These considerations, with the uncommon extent of the malformation, and the period to which life was prolonged under circumstances the most adverse, have induced me to report the following case. It will be recognized as belonging to that class of malformations, which Corvisart treats of in his chapter on the *Maladie bleu*, and as a variety of the first division of Dr. Farre's essay on the same subject.

W. L. was born in Portsmouth, N. H. Sept. 2d, 1806. His friends have informed me, that during the first months of infancy, his skin began to assume a purple tinge, and his respiration became at times a little laborious. As he grew up, his chest presented an appearance of deformity, which his parents attributed to his frequently leaning over a window; this, however, was doubtless a natural malformation, rendered more perceptible by age. The symptoms of dyspnoea, attended with a slight cough, and occasional expectorations of blood, continued to increase until I saw him in the year 1818. He was at this time nearly

twelve years of age, and his appearance such, as to attract the attention of all who met with him.

He was tall and slender, having but little flesh on his extremities. The last joints of his fingers and toes were unusually long, broad and bulbous ;—the nails hooked, and of a dark purple. His hair was light coloured, and his eyes large and prominent. The surface of his body generally was of a leaden hue ; but on the accession of a paroxysm, some parts, such as the lips, nose and ears, acquired a very dark purple. He was very sensible to cold, and the temperature of his body, when at rest, was below the natural standard, though easily raised by the slightest exertion. There were no marks of a diminished energy of the brain, as might have been expected in such a case :—on the contrary his intellectual powers were good, and his memory unusually retentive. His disorder, it will be perceived, was of a character to admit of but little exercise without increasing his distress. But if, at any time he attempted to join in the sports of children, he might be seen pursuing them slowly at a distance, stopping at short intervals, or overcome by exertion and panting for breath, seated by the way side, until he was sufficiently restored to renew the pursuit. At such periods the paroxysms were very severe, being attended with a palpitation of the heart, which was almost audible, blackness of the tongue and fauces, and of all the most vascular parts of the system ; a turgidity of the vessels of the neck, an inflation of the countenance, and great heat of the surface. But it was not from exercise alone, that he experienced a recurrence of these symptoms, for they often came on very unexpectedly, and seemed to be merely the efforts of nature to relieve the system of some noxious principle.

The paroxysms above described, continued to increase in force and frequency, until he was confined to his chamber, when they were complicated with all the symptoms of hydrocephalus. His cough became incessant, attended with frequent expectoration of black blood, and a great difficulty of breathing. His eyes, before prominent and suffused, now seemed starting from his head. He was paralytic on one side—extremities oedematous, bowels torpid, &c. During his confinement, the heat of his body was very variable—often great. His pulse were quick and small—but regular. Deglutition was often suspended, and he had frequent hæmorrhages from the mouth and nose. Reduced to the last degree of emaciation, he died the latter part of February 1820 ; aged 13 years and 6 months. In the afternoon of the same day, I examined the body in the presence of several medical gentlemen of this place, and made such sketches as were necessary to a full report of the case, with engravings.

Dissection.—On removing the sternum, which was small, but more projecting than usual, the pericardium adhered so strongly to its surface and the ribs, that it was found difficult to separate them. The thymus gland was large and distinct. The lungs were very small, dark coloured, and adhering to the ribs on each side, and to the diaphragm, by strong bands of a ligamentary texture. Tubercles were pretty generally diffused throughout their substance, and two or three small pieces of ossific matter were found in their upper portion. The cavities of the thorax and pericardium appeared black and gangrenous—but free from serous effusion. The heart, *in situ*, with the exception of the auricles, which were considerably distended with black blood, exhibited no very remarkable appearance. Its connection with the lungs, and the aorta, were now carefully separated, and all its vessels tied up, except one of the pulmonic veins, through which it was inflated; and so perfect was the distention of every part, that not a doubt could remain of the nature of the malformation. The ductus arteriosus, about a half an inch in length, was pervious and of the size of a crow's quill. Its apex was more obtuse than usual, and the relative form and structure of the ventricles seemed to be altered. In addition to these external marks of deviation, was its smallness, perhaps for the age, and the collection of fat about the coronary vessels and at the junction of the ventricles, which, considering the emaciation of the subject was very uncommon.

On dissection, the septum of the auricles was found to be entirely wanting; indeed, no evidence could be discovered that one had ever existed. There was also a perforation of the septum of the ventricles just below the origin of the aorta, large enough to admit the little finger. Through this communication, ligamentary bands, resembling the *cordæ tendineæ*, passed to either ventricle, demonstrating that it was the effect of malformation rather than of disease. A probe introduced through the aorta, passed into both sides of the heart with equal ease. The next object of examination was the pulmonic artery, which was nearly impervious. Its valves were thickened into a triangular form, and so much constricted as to admit with difficulty the eye of a small probe. But the greatest apparent irregularity was in the two lower cavities; the parietes of the right ventricle having so much increased in hardness and muscularity, as to render it incapable of containing more than half an ounce of blood, while those of the left were thin, and its cavity proportionally increased. The situation of the two ventricles seemed to be in fact reversed, the right resembling in form and structure the left, and *vice versa*. Nor was this appearance of the

right ventricle different from what might have been expected, if the position of Allan Burns is correct, "that when the blood is obstructed in its passage from any of the cavities of the heart, the muscularity of that cavity is for the most part augmented." In the two cases, also, reported by Morgagni and Hunter, in one of which the pulmonic artery was impervious, and in the other constricted; the structure of the right ventricle was precisely the same. With regard to the existence of hydrocephalus, circumstances would not admit of a demonstration. But of the fact there can be no doubt, both from the symptoms of the case, and the tendency to hydropic complaints in all affections of the heart.

The causes, which produced the various symptoms in this case, were, as the dissection evinced, a diminished pulmonary circulation, and the intimate mixture of black and red blood in all the cavities of the heart. And from the nature of the obstruction at the orifice of the pulmonic artery, the diameter of which, compared with that of the aorta, was exceeding small, may be inferred the small proportion of blood, which was ever subjected to the influence of the lungs. In fact, this obstruction alone was sufficient, in ordinary cases, to have produced instant death. But besides the evils resulting from imperfect oxidation, both from the diseased structure of the lungs, and the constriction of its artery, even the small quantity of blood which was admitted to them, was on its return, exposed to a mixture with the contents of all the cavities of the heart, from a deficiency in the septum of the auricles, and a communication between its ventricles. If then, a perfect structure of the heart and lungs, and an exact balance between their actions, are essential to the healthy exercise of the various functions of the body, how wonderful must have been the powers of the constitution in prolonging life, where the deviations from nature were so numerous and important, as this case exhibited.

The heart of this boy was, in reality, a single one, and nearly allied in its structure to that of the cold blooded animals. But how far he was amphibious in his character, was never made a subject of experiment. Those, however, who believe with Buffon, that the amphibizæ may be made by keeping the foramen ovale open, or in the story of the Tronningholm gardener, who from the same cause was enabled to exist sixteen hours under water, at the depth of eighteen yards, may easily imagine this child to have possessed similar properties.

A case of this kind is also interesting in a physiological point of view, involving a question of no less importance than the source of animal heat, and giving additional weight to the objections which have been made against the function of *respiration*, as being the only agent in its production. Indeed, the

common theory, that the heat of the body is maintained by the evolution of caloric from the chemical combination of the air with some of the ingredients of the blood, or from a change of its capacity, as it circulates through the system, will, in no way, account for the temperature of this boy. For the malformation of the heart was such, that so far from permitting a free circulation of blood through the lungs, (a circumstance of vital importance to this theory,) it would hardly admit a sufficient quantity for their own nutriment. It may be objected however, and with truth, that he was sensible to cold, and that his temperature was frequently below the natural standard; but it is no less true that it was often above, and particularly so, after his confinement to his chamber. Besides, independent of the malformation of the heart, there can be no doubt that the morbid structure of the lungs, with the debility and extreme emaciation of the subject, were quite sufficient to produce the occasional coldness which he experienced.

This example of malformation of the heart, with others of a similar character reported by Corvisart, Burns and Farre, the last of whom states the same difficulty with regard to the temperature of the body, goes very far, I think, to prove that there is something much more vital in the production of animal heat, than can be accounted for by mere chemical affinity.

Portsmouth, N. H., June, 1821.

References to the Plate.

FIG. I.

1. Aorta.
2. Ductus arteriosus.
3. Pulmonary artery.
4. Its semilunar valves so united as to form a triangular orifice.
5. Right ventricle.
6. Perforation of the septum between the ventricles.
7. Ascending cava.
8. Fat surrounding the coronary arteries.
9. Auricle.
10. Arteria innominata.
11. Left carotid.
12. Left subclavian.

FIG. II.

1. Aorta.
2. Ductus arteriosus.
3. Pulmonary artery.
4. Left ventricle.
5. Perforation of septum ventriculorum.
6. Auricles without a septum, or single auricle.
7. Communication between the auricle and left ventricle.

A Case of Cynanche Laryngea, with the appearances after death. By JAMES JACKSON, M. D. Professor of the theory and practice of Physick in Harvard University.

[Communicated for the New-England Journal of Medicine and Surgery.]

THE disease denominated by Dr. Farre, *Cynanche laryngea*, is very rare. During upwards of twenty years Dr. Baillie saw only two cases of it, and those two within a short space of time. During a period of equal length, but in less extensive practice, the following is the only decided case of that disease, which has fallen under my observation. As this disease is not yet very generally known, and as the following case may throw some new light upon it, I have thought it proper to publish it.

On Saturday morning, April 21, 1821, at 8, A. M. I was called to Mrs. A. B., a lady in her forty-second year, who had enjoyed vigorous health until about four years since. At that time she bore her first and only child, and never afterwards recovered the appearance of vigour and full health, which she had previously manifested. I do not know, however, that she had had any specific complaints; she certainly had none for which she asked medical advice. For many years she had been subject to frequent and very severe attacks of sore throat, and particularly about twelve years since she had an affection of this sort, which caused her very great suffering, but for which she had not any medical advice.

During the past winter she had scarcely been free from a cold and cough, so that her friends frequently cautioned her against exposure. She, however, went abroad freely during this time. About a month before I saw her she had a sore throat, which troubled her considerably; and she had scarcely recovered from this, or perhaps not entirely, when the last and fatal disease occurred.

On the 19th of April she had a new attack, as she supposed, of her common sore-throat; and it may be remarked, that it is highly probable that her previous attacks had been nearly, or quite the same as this last, except in degree, as she did not at the first consider herself as more sick than usual. She went about her house, and even into the next house, on the 19th and 20th.

On the 20th her child had a sudden convulsive affection, which agitated her considerably. I saw her at this time for a few minutes, and remarked that her countenance looked very badly, and that her voice was altered. But I heard nothing of

her being sick herself, and I attributed these appearances to the agitation of her mind.

When called to her on the 21st, I learned that on the preceding day she had been very cold, though the day was warm and she had a large fire; that her throat had been so sore as nearly to prevent her taking food; and that her speech had been painful. These complaints increased in the evening, and there were added to them pains in her head and limbs. She passed a distressed and very sick night, but had not any suspicion that her disease was of a serious nature. The appearances which she exhibited on my visit to her, gave me at once a very different impression.

She was lying in bed, her head and shoulders raised by four or five pillows; had a pale, distressed, and anxious countenance; breathed with some, but not great, difficulty, at every moment; spoke with extreme distress, and in an unnatural, hoarse voice, and declared herself incapable of swallowing. Her skin was dry and rather hot, her pulse a hundred and twenty in a minute, hard and moderately full, and her tongue coated. Her fauces were perfectly free both from redness and swelling. She pointed to the top of the larynx as the seat of great pain and soreness. From her description I judged that the pain in respiration was greater, than the apparent difficulty, estimating this from the sound and the efforts to expand the chest. Her muscular strength was somewhat diminished, but not greatly. Her mind perfectly clear, as it continued to be to the last moment of her life.

As soon as I had examined her case, not doubting its nature, I bled her to the extent of a pint and a half. She was somewhat faint and sick at the stomach before one pint of blood had been taken, but the faintness did not increase much, while the rest of the blood was flowing. There happened to be a great difficulty in compressing the veins without compressing the artery, and hence the blood trickled down the arm much of the time, though in a large stream. Notwithstanding this there was a buff on one of the cups.

After the bleeding she said her breathing was less painful, but not the effort to swallow the saliva. The pains in her head, &c. were removed by the bleeding. I directed some powders of tartrate of antimony, and submuriate of quicksilver to be given at intervals until full vomiting should be produced. As these articles were not bulky I did not doubt that she could swallow them. I also directed a blister on the throat.

Returning to her at 10 o'clock I found that she had not been able to swallow a particle of the medicine. I then endeavoured

to persuade her to try some water, which her thirst would have induced her to take eagerly if she could. But in repeated attempts she once only appeared to get a drop into her throat, and that caused her great agony. Thus excluded from administering medicine by the mouth, I directed for an enema a solution of tartrate of antimony. This produced a very copious discharge from the bowels, and seemed to render her rather more comfortable. As soon as she had rested, I made an attempt to administer a solution of tartrate of antimony. With great difficulty, and in three separate trials, she got down a desert spoonful of water, containing four grains of the tartrate in solution. At the end of three quarters of an hour she swallowed another similar dose. This caused a pretty copious vomiting, three times, without extraordinary distress, of a thin fluid, coloured with bile. At the same time she brought up two or three spits of heavy mucus, some of it very dark coloured. She had expectorated as much at some other times previously, particularly when she attempted to swallow.

It may be well here to remark on the kind of difficulty, which she suffered in swallowing, and in attempting it. In many attempts the liquid did not reach her fauces. She would begin to carry it back in her mouth as if just going to swallow it, but then would stop, throw her head forward, and let the liquid run out of her mouth, and signify that it was impossible to swallow. When she did swallow, she would make a most violent effort, and then would seem as if strangled; be in extreme distress, tossing herself about, and gasping, until she could bring up something from her throat. These motions, which I have not well described, perhaps, clearly show that some of the liquid found its way into the larynx.

The vomiting was followed by copious and repeated purging, but she obtained no relief. On the contrary, the difficulty of breathing was constantly increasing from the morning. At 3, P. M. when the blistering plaister had evidently occasioned an inflammation, and vesication was beginning to take place, and when all the evacuations spoken of had been effected, her situation had become desperate. Her pulse had at first been reduced in hardness, and somewhat in frequency, by the bleeding. But now her pulse had become very frequent and small, her countenance was more and more morbid, almost cadaverous, her respiration was more laboured and noisy, though without the peculiar sound of croup, and deglutition could not be attempted except for some very important purpose. I requested a consultation, either that something more might be suggested, or that the necessity of leaving the patient to her fate might be

witnessed by some professional man besides myself. Meanwhile, as the accumulation of mucus about the throat was increasing, I ordered a decoction of seneca snakeroot to be tried in the dose of a tea-spoonful. Two such doses were swallowed, but with such extreme suffering, that the medicine was omitted. The suffering did not arise from the acrimony of the medicine, for a subsequent attempt to get down a tea-spoonful of flaxseed tea was equally distressing. It may be stated here, that the only articles Mrs. B. swallowed from the time I saw her till her death, were the two dessert spoonfuls, and the three tea spoonfuls, which have been mentioned. She frequently rinsed her mouth with cold water, and showed no want of fortitude in attempting to swallow; but she did not once do it, except when she took the tartrate of antimony, without seeming to incur a serious risk of suffocation.

At 6 o'clock, P. M., Dr. Warren saw her with me in consultation. We discussed the propriety of the operation of bronchotomy, as it was obviously impossible to administer medicine to any advantage, and as further evacuations were forbidden in the exhausted state of the patient. But in comparing her situation with that of those, in whom this operation had been resorted to, we could not encourage ourselves in the hope of benefit from performing it. As a possible means of relief, and as one which could be employed without any evil, we agreed on the red sulphuret of quicksilver, the fumes of which were directed to be received into the mouth and nose of the patient. This remedy was used several times, but as the patient became annoyed by it, and was in so desperate a state, it was then omitted.

After this all efforts were suspended, and she gradually sunk during the night, but did not expire until 8 o'clock, A. M. on the 22d, just twenty-four hours from the time I first visited her.

There is a great similarity in this case to the two seen by Dr. Baillie, and the one related by him as seen by his friend. In all these cases the patients lived three days from the first attack, and the symptoms did not occasion any alarm until twenty-four hours before death. But there are these differences. In my patient there was not any inflammation to be seen in the fauces, which I examined twice with great care. And the difficulty of breathing, though constant, and increasing from the time I saw her till her death, was never so great, except after swallowing, as in Dr. Baillie's cases. Indeed in every other case I have seen recorded, the dyspnœa was greater than in this. It was certainly less than is commonly seen in the last stage of croup. From the first moment I despaired of recovery, unless she should be relieved by venesection and the other remedies directed at

my first visit. This despair was founded on what I may call a fixedness in the local complaint, and the very bad expression of countenance, more than on the degree of dyspnœa. Yet I would not have it understood that the respiration was not very difficult. The difficulty in this respect was constant, and continually increasing for some hours, and after 3, p. m., the respiration was so loud as to be heard below stairs; the patient could not lie down, but was all the time nearly in an erect position; but there was not the labour to expand the chest, nor was there the jactitation, which I have often seen in croup.

Appearances after death.—Owing to circumstances, which were unavoidable, but much to be regretted, the body was not examined until thirty hours after death. It was obvious that if the œdematous swelling about the glottis, noticed in some cases, had existed, this must have diminished in so many hours. The only appearances of disease were as follows.

The thorax, being examined by percussion, resounded well, though not so perfectly as in some bodies. In drawing down the trachea and larynx with the œsophagus and pharynx to remove them, the necessary pressure threw a quantity of fluid into the fauces and nasal passages. There was about half an ounce of this fluid, and it seemed to be thin purulent mucus. It no doubt was discharged from the larynx, as a portion of similar fluid was found in this afterwards. The inflammation in the pharynx was on the front part, on each side of the larynx. The upper part of the larynx was also inflamed, and the lower part of the epiglottis, especially on the right side, was affected in the same way. The pharynx and larynx both being opened on the back part, and the parts spread out, or laid open, the inflamed portions were exhibited as constituting a band about two inches long, measuring across the organs, and following their course, an inch and a half wide on the right extremity of this band, but becoming gradually narrower, so as to be only three quarters of an inch wide in the left extremity. These measurements apply to the parts, as they appeared on the table, when not stretched out. A larger portion of the epiglottis was inflamed on the right than on the left side, and this little organ was altered in its shape, being curled on the right side especially, so that its under surface was irregularly concave. The inflamed part was not very red, except one deep-coloured spot, in which there seemed to be an ecchymosis. The whole inflamed part was much swollen, but rough and wrinkled. This wrinkled appearance was however less observable in the larynx than in the pharynx. The swelling within the larynx was greatest at the *rima glottidis*, but was not sufficient to close the passage entirely. The mucous

membrane was a little thickened throughout the whole larynx, though not red, except in the parts above described. The membrane on the under surface of the epiglottis, at its base, was considerably swollen, and this combined with the swelling at the glottis to close the passage. Neither of the great cavities of the body was opened.

On these appearances I have to remark. 1st. That the inflammation in the pharynx was less extensive than I had expected, and was not sufficient to account for the great difficulty of swallowing. 2d. That it was obvious, when inspecting the parts diseased, that the muscular fibres, by which the glottis is drawn down upon the larynx, were involved in the inflammation; and that from this cause, as well as from the inflammation of the epiglottis itself, this organ could not have been closed upon the glottis without great difficulty. 3d. Taking together the peculiar difficulty there was in the effort, or preparation, to swallow, and the state of the parts, as described above, it appears to me that this difficulty arose from the inability to bring down the epiglottis over the glottis. This is an operation, which is, I presume, always performed from instinct at the moment, when the article to be swallowed is brought near the root of the tongue. Now, in this disease, at the moment when a substance is brought near the root of the tongue, the effort to shut down the epiglottis is so painful, that the patient feels it impossible to proceed; and if he does, some of the substance is liable to enter the larynx, because this is not perfectly closed. This explanation will at least apply to the case, which has been related above. It may be true that other causes, impeding deglutition, may occasion a like dread at the moment, when this act is to commence; but in such instances there will probably be other symptoms to distinguish the disease. In *cynanche tonsillaris* the difficulty of swallowing is somewhat similar, but not just the same; and besides, the visible disease will prevent doubt. If the two diseases be united, the difficulty of respiration will help one to recognise the case.

I will add a few observations on remedies not employed in this case. After the venesection I considered the expediency of applying leeches. I decided not to use them, as the venesection had been ample, and in croup I have always found much more benefit from general than local bleeding; as they would have occasioned a delay of two or three hours in the application of the blister; and as they would interfere with the administration of the emetico-cathartic, which I then ordered. The blister did not appear to me to afford the slightest relief, and the question has occurred to me whether very cold applica-

tions to the throat might not have been more useful. Dr. Warren suggested another method, which deserves a trial, but which neither of us thought proper, in the situation of the patient, when he saw her. This method is to make a longitudinal division of the integuments over the trachea, and to allow the small arteries to pour out their blood freely.

The ground on which bronchotomy seemed to us not proper, was that the patient did not seem to be sinking from suffocation so much, as from the sympathetic irritation resulting from the disease of a very irritable organ. Her cadaverous countenance, and very small and exhausted pulse gave to the case a hopeless aspect from the moment, when the first remedies were employed.

Dr. PRESCOTT's case of *protracted Syphilis*.

To the Editors of the New-England Journal of Medicine and Surgery.

IF you should think that the following case, in which the power of *arsenic* was found capable of subduing the morbid action of obstinate and long protracted syphilis, can, by being made public, subserve the cause of humanity, or promote the science of medicine, you are at liberty to publish it in your useful journal.

Mrs. —, a lady about 25 years of age, and connected in marriage to a man who was a trader, and whose business occasionally called him to distant parts of the country, and long absence from home. During one of these excursions, he became contaminated with *lues venerea*, and unfortunately communicated the disease to his wife. He soon left her to pursue another long journey, without giving any intimation of the danger to which she had been exposed. The disease of course, went on to an advanced stage before it was discovered or mistrusted. Her parents then took such an interest in the matter, as to forbid his return; he therefore enlisted in the service, and has since died abroad, without ever again visiting his wife. She was for more than a year under the care and advice of two physicians, without obtaining a cure. It was true syphilis or constitutional symptoms. She then went to A***** and resided there, for the express purpose of being under the direction and personal care of the celebrated Dr. K—, for several months; but returned, without having experienced any considerable benefit. She now laid aside medicine, in despair, of ever obtaining relief, and gave herself up for several weeks as an incurable; the disease in the mean time continuing to advance.

1812, Dec. 25th. I first saw her, and received the foregoing account of her case. It was at this date, more than two years since she had first received the infection; and she had taken mercury in all its forms, and in quantity, no one knows how much. In A*****, she had been kept for a long time in a state of salivation, and principally, by the internal use of (as I suppose from her statement) sublimat. corrosiv. in solution. Her greatest suffering was in the throat. On inspection, I found large excavated ulcers on each tonsil, which extended far down into the pharynx; the *velum palati* was full of holes; two of which near the *uvula* were nearly round, through which, I could pass the end of my little finger. There were other openings from the top to the bottom, so that the *velum* appeared at the sides as if formed of small cords. Her voice had become very indistinct, and the power of deglutition greatly impaired.

It was very evident, that the use of mercury had been carried in this case to its utmost extent. It was even doubtful, if these corroding ulcers were not partly derived from the effects, or at least, greatly aggravated by the undue use of that article, rather than from the original disease; I therefore determined to give trial to the *nitric acid*. I was chiefly led to prefer this, by having read in the New-York Med. Rep. vol. I, page 269, of its successful use and speedy good effects in a like obstinate and very protracted case of the same disease, and communicated by Dr. Bayton to Dr. Beddoes, and published by the latter in his *Considerations, &c.* Favourable mention has also been since made of this agent for correcting syphilitic action by other writers. She began its use by taking sixty drops in a pint of water for a daily allowance; but my patient was so desirous to be healed, if possible, that this dose was shortly augmented to the number of *one hundred and twenty* for each day; and from this date, Dec. 25th to January 24th, 1813, she had taken nearly *eight ounces* of the acid. The progress of the disease was by its use retarded, and her general health somewhat amended, but the ulcers did not heal, they rather remained stationary.

On finding so little benefit to result from the use of nitric acid, even in such large doses, I now determined to give trial to *arsenic*, that being an article, more capable than any other within my experience, to disturb and correct morbid action in the system. I therefore, *January 24th*, left her a phial of Fowler's solution, with directions for her to take *eight* drops, three times every day, in a glass of sweetened water. I informed her what the medicine was, and gave very minute information of its effects if too large doses should be taken; cautioning her, at the same time, against increasing the dose to more than *ten* drops,

until I should visit her again. But on visiting her four days after, I found that in her haste to be cured, she was taking *fifteen* drops for a dose, and that she now exhibited evident marks of having ventured to the utmost verge of safety. Her face and eye-lids were swollen, her countenance was assuming the boiled lobster redness, with a constant sensation of cob-webs on the skin of the face, and the hair on her head felt, (she observed,) especially in the night, as if moving and alive. I painted to her the imminent danger she would soon be in, if she thus presumed to *trifle* with so active an agent; I directed her to omit two or three doses, and then to reduce the dose to the number of eight or ten drops, and to manage the use of them in such manner, as that the same sensations or effects of the medicine might be sustained, but in a less degree.

My directions were, from this time, closely followed, and she continued taking the medicine in such quantity, sometimes increasing, and at other times diminishing the dose, as that there should be felt at all times, something of the sensation of cob-webs on the skin, the crawling of the hair on the head, and swollen eye-lids; but, I believe, she never after this ventured to take more than *twelve* drops for a dose, three times in a day. From this date the ulcers put on a healing appearance, and continued *visibly* to contract in size every day, until they were fully closed, which took place in the short period of one fortnight from the time the effects of the medicine became so apparent. My patient continued to take the solution for two or three weeks after the ulcers were cured, but in smaller doses, to guard against relapse. On the 24th of February I left a very small quantity, perhaps sufficient for one week, in order that she might gradually break off from its use; after which, all medicine was laid aside.

After the ulcers became sound, I touched the inner edge of the round openings through the *velum palati* several times, with a pencil wet with a strong solution of the nitrate of silver. They speedily contracted, and became obliterated; but the long openings, leaving collected fibres like strings or cords, still remain.

It is now nine years since my patient was thus cured, and there has been at no time, a reappearance of the complaint in the smallest degree; and she has been, otherwise, in the enjoyment of perfect health.

O. PRESCOTT.

Newburyport, April 23, 1821.

Clinical Remarks. No. 2. By A. L. PEIRSON, M. D.

[Communicated for the New-England Journal of Medicine and Surgery.]

THE rectified oil of Turpentine is a medicine much less used than it deserves to be. The reason probably is, the fear of its producing violent effects on the alimentary canal and urinary organs, a fear in which I have certainly participated, but I have never had any reason to believe that a dose not exceeding half an ounce, has ever produced any injuriously violent effect in an adult. A venerable physician of this place says, he once knew a most violent stangury produced by it, in a woman who swallowed half a teacup full at once. The best mode of exhibiting it, for the cure of tænia and other species of intestinal worms, I believe is, to give it undiluted, *when the canal is empty*. It is well known to entomologists that most insects instantaneously expire when touched with a drop of oil of turpentine. It appears probable that it is in this way it operates to destroy living worms in the intestinal canal. There is, however, an elegant formula for compounding this medicine, which is very highly recommended by Dr. Edw. Percival, in the cure of epilepsy. It is the following:

Take of, Oil of turpentine,

Sugar—each one ounce ;

Spearmint water, one pint ;

Mix gradually, so as to form an emulsion.

Many cases are recorded of the safety of considerable doses, of the oil of turpentine, the following only adds to their evidence.

August 21, 1820. Mrs. C. a lady of slender frame and delicate health, voided four joints of a tape-worm, at that time alive, but a short time afterwards, when I saw them, they were dead. She commenced taking the oil of turpentine in doses of one third of an ounce at a time, once in four hours. She took it clear, rinsing her mouth immediately with coffee. After taking one ounce she felt slight *giddiness* and *faintness* but *no nausea*. At bed time, twelve hours from the time of taking the first dose, she took a fourth dose of half an ounce, half an hour after this she vomited and then slept quietly during the night.

Aug. 22. She felt no effect from the medicine, and was ordered one ounce of castor oil. During this day she was purged several times.

Aug. 23. She took this morning, stomach being empty, half an ounce of the oil of turpentine, In about three hours this operated briskly as a purgative, and continued to purge several

times during the day. The medicine was now omitted. There were no positive marks of any more joints of the worm to be found in any of the stools, but from the very decided improvement in the patient's health, which immediately followed, and has continued until this time, nearly a year, I am disposed to think it might have been voided in a disorganized state.

Effects from an over-dose of extract of Thorn Apple.

March, 1821. Mrs. O. has rheumatism, cough, and hectic fever. On night of 27th, one hour after taking a pill, awoke in great distress—unable to speak or swallow—pulse *full*, frequent and *very irregular*: bears the light of the candle without complaining, pupils contract on the approach of the candle. After forcing down the throat 40 drops tincture of opium, a little brandy diluted with infusion of snake root, she was able to speak: describes the distress as principally in her stomach, shooting through to her back, accompanied with an intolerable sensation of sinking and fluttering. In about twelve hours, was free from all effect from thorn apple, but her strength was much prostrated. Her rheumatic pains have much diminished since the 27th, and her strength slowly improves. The pill contained two grains, and was the extractum stramonii, prepared by the Shakers, which I have always observed to be stronger than the imported. She has since taken it in much smaller doses with happy effect: the patient however is rapidly progressing to most hopeless phthisis. I have always noticed the *first* effect of narcotics upon the pulse is to increase its *fullness*.

Delirium Tremens.

I considered the following case from its duration, severity, and the vile habits of the patient, as near as possible to a desperate one. It yielded, however, to almost desperate doses of tincture of digitalis. The case is instructive, as it shows how easily people will sometimes mistake and disobey the plainest orders, and the danger which may result from this course. In ordering digitalis in large doses, I have observed, in the first place, never to order more than half an ounce of the tincture to be procured at one time: secondly, to make the time of my visit a proper one for repeating the dose as it is ordered, and thirdly, to lengthen the intervals of taking the medicine after the first 24 hours, so as to avoid the effects of accumulation. There are some cases in which opium is to be preferred to digitalis. These are, when the stomach (which is always more or less affected) suffers

very painful and spasmodic contractions. In general, when quiet sleep takes place in this disease, the patient is safe, but I have seen one case, a fatal one in its termination, in which sleep was three times procured by means of digitalis. In this case the stomach was more than usually affected. The patient's occupation was that of a house painter, and the bowels had long been injured by the poison of lead. No notes of the case were taken, nor was any examination of the body permitted.

Jan. 17, 1821. — Blanchard, aged 40 years. Has been sick some days, has been taking opium and digitalis in moderate doses. Eye staring and inflamed—insomnia—skin hot and moist—tongue *very red*, pulse very quick, frequent, small and soft. Has been walking and is flurried. Says he "*is very well, perfectly well.*" Let him be put to bed;—let him take immediately fifty drops tincture of digitalis every third hour till he sleeps.

Jan. 8. Pulse 112, full and soft.—Fell asleep at eleven last night—by mistaking my orders, the tincture was given every hour till the quantity (half an ounce) was exhausted, when the patient slept. Has taken no medicine for 12 hours—has eaten half a cracker. Let him take tinct. digital. seventy five drops immediately, and repeat fifty drops every fourth hour.

Jan. 9. Pulse 112, has been more quiet—but his sleep is still much disturbed—twitching, especially of the tendons—face slightly flushed—some appetite. Let him take immediately, tinct. digital. one hundred drops, and repeat fifty, every sixth hour.

Jan. 11. Has had no medicine for 18 hours,—symptoms continue. Let him take the tincture as before.

Jan. 13. Pulse 88, irregular, somewhat more quiet, but had a maniacal paroxysm last evening. Omit the tincture—let him take the decoction of Peruvian bark.

Jan. 16. Pulse 92, firm and regular. Passed a quiet night and is in every respect better. Continue decoction.

Jan. 18. Convalescent.

May 4. His convalescence was very tardy, for many days after all marks of his disorder had left him; and he complained of a feeble, faint, sinking sensation at the præcordia. He is now about his usual occupation, that of a carpenter, but with strength much impaired. Since the above case, I have seen one, where the same extreme prostration of muscular strength was produced by the digitalis, and this effect, so certain to follow very large doses, is the weightiest objection I know of, to the use of the medicine. That the tincture given in the above case was of full strength, I am certain, for I gave from the same parcel to se-

veral patients in phthisis, none of whom could bear twenty drops at a dose.

Sub-luxation of the radius, in children.

Case 1. C. W. L. a slender girl of 18 months, was holding by the hand of a servant, and stumbled forward: she immediately shrieked and let go the servant's hand. There was no swelling or external sign of dislocation, but the child, was unwilling to reach out her hand, or bend her arm at the elbow, and kept the hand prone. There was little or no pain in reducing it, and the bone gave an audible snap on going into place.

Case 2. C. L. a stout boy, of the same age, was walking down stairs, holding by the hand of a servant, and suddenly jumped off the stair, and held by his hand. He began to complain bitterly, and shortly there took place some swelling and discoloration at the inside of the elbow joint. These cases, I believe, occur very often with children, and I have considered them to be a sub-luxation of the humeral extremity of the radius. Its reduction is easily effected by pressing with the thumb of one hand against the humeral end of the radius and rotating the bone with the other hand at the wrist. It is no doubt often reduced without assistance, but I have known one case, where almost a complete loss of motion in the joint was occasioned by the neglect of this simple affection.

Foreign substance lodged in the rectum.

June 24, 1821. S. W. a child of 2 years, without any previous complaint, became suddenly attacked, while at stool, with violent straining, and was able to pass only a little blood and mucus. The child screamed on every change of posture, and seemed violently agitated. On examining the rectum, a piece of wire was discovered at the distance of about an inch, placed transversely. This being removed with common dressing forceps, the child was instantly relieved. The wire appeared to have been a pin, but the head and point were much corroded. It appeared probable that it had been taken into the stomach and passed quietly the whole tract of intestines, till by the act of expelling the feces it had been made to assume the transverse position in the rectum.

This case suggests the necessity of bearing in mind, that foreign substances lodged in the rectum may create symptoms not very different from dysentery, and the irritation produced by ascarides: confounding the two cases would certainly be productive of some danger.

Salem, May 26, 1821.

Case of Stricture of the Œsophagus successfully treated by Caustic. By CHARLES T. HILDRETH, licentiate of the Massachusetts Medical Society.

[Communicated for the New-England Journal of Medicine and Surgery.]

Haverhill, Mass. January, 1821.

AFTER I attended the Medical Lectures, delivered in Boston during the winter of the years 1818 and 1819, and received my diploma, I visited the states of Kentucky, Indiana, Illinois and Missouri. The following winter I returned to Marietta, Ohio, where I remained until November last, when I returned to this place. Whilst in Marietta the following case occurred to me, among others which came under my care.

July 3d. Dr. S. P. Hildreth, my brother, not being able to attend to this patient, requested me to take charge of him. He informed me that he had visited him first on the night of the 30th of June, and found he had a great difficulty in swallowing, which was increasing very fast, and in three or four hours the swallowing was entirely obstructed. On examination, the palate was found down, the pulse quite irregular and intermitting. Upon enquiry, he found the patient had taken an active cathartic of glauher salts the morning previous, which had operated well as a cathartic. Through the day he had drank a large quantity of buttermilk, and when in health was in the habit of taking large draughts of whatever he drank. At this time he was quite hoarse, had a difficulty in speaking, and had been puking violently for a number of hours; which, together with the difficulty in swallowing, had induced the family to call in medical assistance.

The usual remedies were prescribed for the palate, and a mixture of laudanum and essence of peppermint given for the puking, of which he was able to swallow but a little, the most of it being ejected from the nose and mouth by coughing; the muscles of the epiglottis were partially palsied, with the muscles of deglutition, as he could convey nothing into the œsophagus without holding his head far back, and then much of it would run into the larynx. The patient was bled, the puking subsided, and he was left as comfortable as could be expected.

The next day—patient much as when he left him, with these exceptions, the pulse more regular and the palate quite natural; blisters were applied to the neck, and injections of broth directed, as no tube was to be had that could be passed in to the œsophagus, beyond the stricture.

The day following my brother tried several times to pass different tubes, but could not succeed.

The next day, July 3d, I visited him for the first time, and by the request of my brother, took charge of the patient. I found him in bed, complaining much of hunger, and quite weak, but the pulse were rather strong, and about seventy-five. I made use of a flexible metallic tube, but it not possessing any elastic power, I could not introduce it past the stricture; as the point of it would press hard against the anterior parietes of the œsophagus. A tube made of brass wire and bougie plaster was used, but it was not of sufficient strength to pass the stricture. I directed the continuance of injections made of broth.

July 4th. Early in the morning having procured some strong iron wire, I wound it as close as possible on a brass rod, about three tenths of an inch in diameter, and covered it with bougie-plaster; it made a tube very flexible and strong. I also made a probang, which I supposed might be easily introduced, if small, and the sponge well greased. As it was the family's wish, I requested Dr. John Cotton to visit the patient with me. He complied. We found the patient not much altered, but suffering extremely from hunger. The probang was used (after the other instruments, used yesterday, had been tried without success) and passed with little difficulty, then the tube, last made, was passed through, when some chicken broth was injected to the stomach. From the frequent coughing it excited, it was of necessity withdrawn, before he was fed sufficiently. In a few moments it was again introduced, and more broth injected. The stricture was about opposite the upper extremity of the sternum; the introduction of any thing past the stricture occasioned very severe pain, and it felt extremely sore externally. Blisters and an issue were used with a hope of relieving the soreness and irritability of the stricture, but they had little or no effect. In the *evening* he complained of soreness and pain, in the region of the spine of the left os illium. Directed warm fomentations to the part.

5th. *Morning*. Patient feels better than yesterday. Pain in the side relieved a little. In the *evening*,—patient much the same, although he is gaining.

6th. Much as the day before.

8th. Patient gaining in strength. The muscles of deglutition are relieved, as he can now convey liquids into the œsophagus without holding his head back, which heretofore he has been obliged to do; the right side of the body has now become slightly palsied; the integuments are quite numb, tingle, and are colder than the left; the tube passes more ea-

sily, but he cannot force any thing from his mouth past the stricture.

9th. Troubled with hiccough.

10th. Patient says he suffers extremely from hunger, although improving every day in strength. He is not yet able to walk without tottering.

11th. Hiccough still continues. Directed an antispasmodic mixture to be given, laud. and tinc. cast., when his food was administered.

12th. Hiccough continues. He complains of a tenderness and pain in the region of the diaphragm.

13th. Hiccough continual and distressing. Directed an active cathartic, senna and salt, and the antispasmodic mixture to be omitted.

14th. Cathartic operated well. Large quantities of highly bilious matter were discharged. Gave another cathartic, cal. and salts. Pain in the region of the spine of the illium entirely removed, and the diaphragm relieved.

15th. Hiccough better. Stools yet bilious. Directed another cathartic, jalap.

16th. I this day made use of the bougie, but the patient was not able to retain it long, from the great irritability of the larynx; frequent coughing was induced. It was introduced several times, and retained as long as possible. The hiccough, which has been very distressing, has now wholly ceased. Directed a dose of calomel and jalap.

17th. The bougie being a little enlarged, and rather more soft, was again used, and with less pain to the patient. The impression made on the bougie showed the stricture mostly confined to the anterior and right side of the œsophagus, and of about half an inch through at the base, extending about half way round. The cathartic last given has not operated well. The last discharge quite bilious.

18th. Patient gains in strength. Has this morning been hoeing a few tobacco plants, in his garden. He feels much better when taking moderate exercise, which he has leave to do morning and evening. The tube is passed with a little more ease to the patient than at first. Used the bougie, and gave another cathartic, of jalap and rhubarb.

19th. As the patient is extremely averse to the use of the bougie, from the uneasiness and pain it occasions, I concluded to use the caustic, all symptoms being removed which heretofore might have been unfavourable. The vegetable caustic was made use of.

20th. Patient much as usual, but the introduction of the tube rather more painful than before the use of the caustic.

21st. Soreness and swelling from the use of the caustic, which extended to the articulation of the lower jaw, have subsided. Applied the caustic again.

22d. Patient's mouth is affected by the calomel he has taken, but entirely from his own carelessness, in not following directions. However, I conceive it will be of no injury.

23d. Tube is introduced with more ease, than before the use of the caustic, which was again made use of to-day. Its application occasions very disagreeable coughing.

24th. Directed a gentle cathartic, to correct the state of his bowels.

26th. Applied the caustic.

28th. This day made use of the nitrate of silver. The vegetable caustic which I have heretofore used, is not good. This, I hope, will have a speedy and good effect.

29th. When the tube was passed to feed the patient, the eschar was pushed off. The patient has been in the habit, for a number of days, of taking something into his mouth, washing it, and trying to swallow; and he found this day, to his great happiness, that he was able to swallow a little of the thickened milk, with which he had been fed.

30th. Used the caustic again.

Aug. 1. Made use of the tube this morning, for the last time, as we hope. A large eschar was removed, but it requires as yet, considerable exertion to swallow. His general health is improving.

2d. Patient continues to gain, and is much more anxious to recover now, than before he could swallow. Used the caustic, and directed a gentle cathartic, as he complains of a disagreeable bitter taste in his mouth.

3d. Patient has this morning been eating bread and milk, which he can swallow with moderate exertion. Removed the eschar, and applied the caustic, as it was used but lightly yesterday.

5th. As the caustic last applied answered well, and the soreness has not yet abated, did not apply the caustic to-day. Patient complains of a disagreeable sensation in his head, accompanied with giddiness. Directed an active cathartic. As he is a good deal hypochondriacal, ordered tincture of assafoetida; one drachm to be taken on going to bed.

7th. Cathartic operated well, and relieved his head, and together with the drops, which he thinks are very fine, have much improved his health. Having examined the stricture with the bougies, found a part of it still remaining. Used the caustic.

8th. The patient swallows with more difficulty to day than he has for some days previous, on account of working exposed to the hot sun in the middle of the day, which I had often forbid : directed some eccoprotic medicine, and to avoid like exposures.

11th. Applied the caustic.

12th. The caustic applied yesterday, occasions swelling and soreness, extending up to the articulation of the jaw.

13th. The swelling has subsided with the soreness, and he now swallows whatever he pleases with perfect ease. Discharged the patient *cured*, directing him to use the bougie every day for a few weeks.

The patient had as much broth or thickened milk, twice or three times a day injected through the tube, as he could digest, yet he suffered extremely from hunger ; when he was just fed, and his stomach full, then was his hunger most distressing ; he used to tell me that he could tear the flesh from his own body and eat it ; if he could swallow the most filthy reptile, he would think it a delicious treat ; this distressing hunger would last about fifteen minutes. It came on soon after he was fed and his stomach full, so that it could not arise from the want of food : I supposed it was the want of saliva with his food, which he entirely lost ; after he could swallow and eat his victuals as formerly, he was no longer troubled with hunger.

The hemiplegia became apparent on the sixth of July, but very plain by the tenth, and on the fifteenth still more evident, numbness, tingling, &c. ; any substance which was hot he could not hold in his right hand, or stand near the fire without producing a very disagreeable sense of oppression at the heart, which he used to think would take his life if persisted in. When he became able to walk, the right leg, he said, seemed as if it was going away forward of him—the posterior muscles of the thigh being much palsied, but as he took exercise they recovered their tone ; he had a sensation of burning in the leg and arm of the right side, accompanied with pricking. This came on about the first of August, but it gradually subsided, and by the 20th of August, was confined to the foot ; yet the numbness continued, the right side being weak, it sweats much more freely than the left.

I saw the patient in Nov. he continued well, the burning and tingling had not then left the foot and ankle. He has discharged large quantities of viscid phlegm from the fauces, since he was cured, which he did not before. His voice is rather hoarse and squealing, but better than when first attacked, he cannot speak loud, and probably will never be able to speak any better than at present.

When I bid the old man good by, he expressed a great deal of gratitude, for he considered me as having saved him from the grave ; and for which he was able to pay me in nothing but good wishes, for which I heartily thanked the old man and bid him farewell.*

Note.—The above case is accompanied by certificates, and references to very respectable authority in support of the facts related. We have not thought it necessary to publish them. ED.

Case of Hæmorrhage, from extracting a Tooth. By RICHARD HAZELTINE, M. D.

[Communicated for the New-England Journal of Medicine and Surgery.]

ON Sunday the 29th of last April, I was requested to visit J. C. who, the preceding evening, had, with a string, extracted a loosened tooth from his own jaw ; from the socket of which, a profuse hæmorrhage had issued, constantly, after the extraction. The tooth was the first bicuspid next to the cuspis, on the right side of the lower jaw. The hæmorrhage had been so profuse, that the idea of taking food, and swallowing it with the blood, which the patient must necessarily have done, was so disgusting, that he had fasted ever since the extraction of the tooth, till he sent for me, which was nearly twenty four hours. By this time, from loss of blood and abstinence from nourishment, his pulse was very small and frequent ; and he had become pale and feeble ; though he had kept up most of the day. He having rinsed his mouth with warm water, I examined the socket from which the tooth had been extracted, and found the margin more collapsed than I should have expected ; and occupied by a florid coagulum ; notwithstanding which, there was a constant flow of florid, no doubt, arterial blood.

The first expedient which occurred to my mind for the suppression of the hæmorrhage in this case, was compression ; although in case of the failure of that, I was prepared to try the actual cautery ; the powder of the root of the *Geranium Maculatum* ;† and other powerful styptics. I placed a middling sized

* Mr. HILL, the patient, is about 62 years old, by occupation a labourer, of middling stature, and hardy constitution.

† *Vide* Philadelphia Medical Museum, vol. 3. page 154.

phial cork horizontally between the two contiguous teeth, as big as the vacancy would admit, and directed the patient to close his jaws, in order thereby to make steady pressure upon the cork. Although this pressure, from the too small size of the cork, was found insufficient effectually to restrain the hæmorrhage; yet it evidently checked it. I now took a *long* phial cork, and with a penknife, made it conical; with a nice apex; leaving the base so broad as completely to fill the space between the standing contiguous teeth, with a view to keep it steady when introduced; and at once placed the apex into the socket, and directed the patient to make as much pressure, by closing his jaws, as he could comfortably bear. As the cork gave some uneasiness, he did not apply a sufficient degree of pressure to restrain the hæmorrhage at once, but by varying the pressure as he could bear, he soon found that he had a perfect control of the hæmorrhage; and in a little time stopped it entirely. The cork was of such length, that when fixed, it rose considerably higher than the teeth between which it was placed; so that he could speak with tolerable ease; could spit, and perfectly clear his mouth; and take freely of liquid nourishment; for which he had an excellent appetite. Nothing unpleasant occurred afterwards; and the cork was suffered to remain twenty four, or thirty six hours.

This same gentleman had suffered some years ago from a similar occurrence; and the hæmorrhage on that occasion was suppressed by the advice of a physician, by means of the actual cautery.

As a disposition to hæmorrhage has sometimes manifested itself in certain families; it may not be impertinent to observe, that a sister of the above patient had once suffered the same unpleasant effects from the same cause.

Lynn, May 30, 1821.

Observations relative to Veterinary Surgery, with remarks upon the works of some late writers on that subject. By J. B. BROWN, M. D.

[Communicated for the New-England Journal of Medicine and Surgery.]

I AM induced to make the following observations from a belief, that Veterinary Surgery has attracted less attention in this country, than it ought to have done. There are a few gentlemen in most of our large towns, who may be said, to be fanciers of horses, and who make themselves acquainted with some of the points which are characteristic of their peculiar excellence,

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whether for draught or speed ; but ~~our~~ scientific men have either wholly disregarded the diseases of this noble and useful animal, or have not considered the practice of the Veterinary art sufficiently lucrative, to afford an inducement, to relinquish *for it*, other profitable occupations. Hence the practice is altogether in the hands of illiterate men.

It will not, I presume, be considered irrelevant to the present subject, to introduce *here* some remarks on the Veterinary College in England, first established in 1792. It is stated in "Boardman's Dictionary of the Veterinary Art," that the public are indebted for this truly national foundation, to the humanity, discernment and patriotic exertions of a country agricultural society, that of Odiham in Hampshire. It commenced under many disadvantages, and its present flourishing state is attributable to the fostering hand of government, and the ability with which it has been conducted.

Mr. Coleman, the present professor and immediate director of the institution, is a gentleman of high standing and reputation. He was educated in the science of human and not animal medicine. From his previous knowledge of anatomy and physiology, and the practice of medicine, and the analogy between the practice on the human and animal subject, he has been able to make rapid progress in the veterinary art, and rendered essential services to his country. The lectures he delivers at the college, are calculated to disseminate a knowledge of the profession, and the country must be gradually improving in the science of animal medicine. The only disadvantage at the present time, resulting from these lectures is, that men attend them without the necessary prerequisite qualifications, and after getting some crude ideas, and a few formulas, set themselves up in different sections of the country, as veterinary surgeons. This is however an evil which time will remedy. As the art becomes better understood, and men of science take it up, as a profession, the good sense of the people will naturally give them their confidence.

Mr. Goodwin, an author which I shall notice particularly hereafter, gives the following account of the state of the veterinary art in England, previous to the establishment of the veterinary college.

"The practice was in the hands of a class of individuals, by no means competent to the purpose, being very generally illiterate men. They consisted of smiths, with knowledge sufficient to bend a piece of iron, and to nail it on a horse's foot ; and these were considered sufficient qualifications to the title of farrier, with full license to perform operations and prescribe medicines. Receipts were employed by these persons, the value of which were estimated in proportion to their antiquity, and the number of their ingredients."

This is very much our situation, in this country at the present time. When our horses are sick or lame, they are taken to the smith, who either bleeds, physicks or rowels them, as mechanically as he would put on a shoe.

It is needless to remark how very vague and uncertain a prescription must be, where the person who makes it, does not examine the pulse, and is ignorant of the state of the system generally, not knowing the means of distinguishing a disease of debility from that of excitement.

It is to be regretted, that the diseases of an animal, that we are so dependant upon, and one that contributes so much to our pleasure, and is so subservient to our interests, should not be better understood, and more scientifically treated. As long, however, as the public are satisfied with our present state of veterinary knowledge, it is not to be expected that those who practise the art, will make much improvement.

The subject of shoeing, to those of us who use horses on paved streets and hard roads, is more interesting than any other branch of veterinary surgery. Our horses generally give way or "break down" first in their feet. I mean those that are not injured by improper use. How many horses are annually disposed of at a great sacrifice, in consequence of bad feet, or more properly bad shoeing and improper treatment of the feet.

Our system of shoeing is the old English system, and not unlikely the same that was made use of, when our forefathers left their native country.

Mr. Goodwin, the author above alluded to, is "Veterinary surgeon to his majesty" the king of England, "and member of the royal college of surgeons." He has recently published a valuable work entitled, "a new system of shoeing horses." The work is comprised in an 8vo. volume of 309 pages, with 9 plates. Mr. G. has treated the subject scientifically, and his system of shoeing is founded upon philosophical principles. In his preliminary observations he says, "as I propose, in the following pages, to attempt an elucidation of an important part of the veterinary art, the reader will naturally inquire what are my pretensions for addressing the public on this occasion. My claim, I conceive, rests on the best of all foundations—long experience; for I may briefly state, that I have been extensively occupied in attending to the management and diseases of horses of all denominations, both in the army and in private practise, during the last twenty years."

The author takes up his subject generally, beginning with the structure of the foot. He then gives a description of perfect and imperfect hoofs; with plates of each.

Perfect Hoofs.—"A perfect foot has the shape of a cone, except at the heel. The front, which comprises the largest portion of the wall or crust, is the most cone-like, and the quarters are less so. When the horse is standing on a pavement, the foot, at its base or bottom, is much larger than at the top or coronet, and the crust descends from the coronet to the bottom in a regular slope, at an angle of about 45 degrees in front."

"The hoof should be smooth and even on its surface, strong, tough and vigorous in its appearance; the heels should be well back, and the nearer they approach to the back part of the frog the better, and the more the quarters and heels approach to a perpendicular position, the more they are calculated to support the weight above: the space appropriated for the frog should be wide and open."

"Having described as much of a perfect foot as can be seen when the horse is standing, I proceed to describe the appearance and shape of a perfect hoof, when the foot is taken up. The first circumstance that deserves attention is the uniform box of horn, which being divested of all its superfluous or exuberant parts, approaches to the form of a circle."

"The words 'superfluous parts' may require some explanation:—Suppose a horse to have run in the fields until he is four or five years old, and that his feet have never been touched by an instrument, this state of the feet, would by many persons, be called a state of nature, and the foot would therefore be thought perfect; but it ought to be considered like any other production of horn, which has grown into a state of exuberance in some parts, and is worn and broken in others. When the hoof is divested of these exuberances in the same way, as we cut our nails to keep them in a fit state, I consider that the proper time to look at the hoof, to observe its natural shape. It will then appear that the base or bottom of the crust descends to the lowest part of the foot, and projects beyond the sole, and is that part which the horse rests upon. It should therefore be thick, firm and strong."

"As the crust is that part on which the shoe rests, and to which it is nailed, it is very important that it should be perfect in thickness and strength. The bars or binders, being a reflection or continuation of the crust, should be firm and strong, and should have an oblique position in the descent to their union with the bottom of the frog. The sole should also be firmly and uniformly united with the crust and bars, and be strong and concave."

"The frog, which is uneven in its surface, being convex on each side, concave in the centre for about half its length, and then convex to its termination, should be strong, full of horn, prominent and vigorous in its appearance, open in the centre or cleft, and full on its sides and point.

"The space between the frog and bars should be open, distinct, and clear, and the heels of the crust should come as far back, or nearly so, as the heel of the frog."

Mr. G. makes some observations on the colour of horse's hoofs. He thinks black hoofs the most durable, and the least prone to disease.

Imperfect Hoofs.—Mr. Goodwin considers, first, the natural imperfections of the hoofs of horses, such as are not the effect of any particular system of shoeing, but which occur from natural deformity.

Weak Feet.—"Feet of this description are frequently large, flat and thin, though there are also some which are very thin, but not out of proportion in size: both kinds are uniformly concave on the front part of the crust, and curl up at the toe, in proportion to the extent of the defect. It is equally observable, that the crust in feet of this description, is uneven on the surface; being frequently indented, wrinkled, and having a ringlike appearance."

Small Feet.—"It is not unfrequent to see large horses, but chiefly among those which are thorough-bred, with small feet. The base of the feet of these horses, not being broad enough to support the superincumbent weight, they are consequently insecure on their legs, and soon break down."

Large Feet.—"There is likewise a class of horses with feet of a form the reverse of the last described, having no particular malformation, but being too large and unwieldy."

"When such horses are required to work, the weight of the foot has a manifest effect on their action, rendering it slow and clumsy."

After considering these natural imperfections of horses' feet, Mr. G. gives an account of the imperfections and diseases produced by improper shoeing and treatment of the feet, such as contractions, corns, sand-cracks, thrushes, concave and convex soles, founder, &c.

He then describes the nerve operation, and the ordinary instruments used by smiths. He gives an account of the ordinary methods of shoeing horses in England; describes professor Coleman's system, Mr. Bracy Clark's, and the French system.

The French system of shoeing is worthy of particular notice; some extracts from Mr. G.'s description of which will be given hereafter.

Mr. G. goes on to give an account of a variety of foreign systems of shoeing, and describes particularly the Persian, Barbary, Portuguese, and German shoe.

The Spanish, Flemish, Italian, and Swiss shoe, he says, are inferior copies of the French. The Dutch and Russian, very rough copies of the German.

French System.—"The French shoe is, perhaps, rather wider than the common English shoe. It is convex on the ground side, and concave on the foot side, and equally thick throughout. It has eight nail holes, at equal distances, round the anterior part of the shoe; but the last hole on the inside quarter, is generally at a greater distance from the end of the shoe; the holes are punched with a square countersunk head, deep into the shoe, and at some distance from the outer rim, and they are made obliquely, to give the point of the nail a direction outward."

"On the foot side of the shoe there is a much greater space between the nail holes and the outer edge, than in the English shoe; and instead of the shoe being straight from the toe to the heel, it is considerably curved at the toe, which is called by the French veterinarians "the adjusting balance."

The author's system.—Mr. Goodwin considers the French system of shoeing superior to any system that has come within his observation. He thinks himself justified in this opinion from his own experience, and from the information he has been able to collect from French authors, from veterinary surgeons, from cavalry officers, and other persons who have attended to the subject when in France, and who have particularly observed the state of the feet of horses in that country.

"In a conversation," he says, "with Mr. Sewell, the assistant professor at the veterinary college, who has recently twice visited the continent to enquire into the state of the veterinary art, he remarked, with a degree of earnestness that showed the impression which their mode of shoeing made on his mind, "that he had seen more lame horses on his return, in the stage-coaches from Harwich to London, than he had met with during both his visits to the continent."

The form of the shoe recommended by Mr. Goodwin for general use, is simply this, curved at the toe, and nail holes punched in the manner recommended in the French system; *concave* on the ground surface, and *convex* on the foot surface, with the outer edge of the inside rounded off, or, as he expresses it, "sloped inward," to prevent cutting.

Mr. G. considers the curve at the toe of great importance in the form of the shoe, and gives very satisfactory reasons for his

opinion, founded on the motions of the horse's limbs, on the "form of the joints connected with action," on the shape of the coffin bone,* and on the "form of a shoe worn out." He thinks it better to give a *new shoe that form* "rather than suffer the action of the leg to be opposed until it is worn to that shape." It is obvious that the curve affords a greater surface of bearing at the toe, than the straight ordinary shoe. It may also be worthy of remark, that a horse would be less likely to trip with a shoe of this form. Mr. G. considers the muscles and ligaments of the limbs more at ease with a shoe curved at the toe, and "consequently less liable to be strained." He illustrates his idea by remarking, "the facility with which the Indian people move in their wooden shoes, which are considerably curved at the toe, when compared to the difficulty of moving with those, that have a straight unyielding sole."

Mr. G's system differs from the French system, particularly in reversing the *faces* of the shoe. The French shoe is convex on the ground side, and concave on the foot side. Mr. G.'s shoe is concave on the ground side, and convex on the foot side. The concave form of the shoe, on the ground side, appears to be an improvement upon the French system, inasmuch as it renders the horse more safe and secure on his feet, particularly upon pavements, and gives him a greater purchase on the ground; but the convex form on the foot side of the shoe, is a much greater improvement. The difference between a shoe concave on the foot side, and a shoe convex on the foot side, may be illustrated in this way. The whole face, next the foot, of a shoe concave on the foot side, represents an inclined plane. Imagine a continuation of this inclined plane, until it meets, at a point, in the centre. The shoe will then represent a box of a conical form. Suppose a horse's foot, which is a yielding substance, should be placed in an unyielding iron box, of the form of a cone or tunnel, it is evident, that the superincumbent weight of the animal would have a constant tendency to contract the hoof. If we reverse the shoe, we shall then have a convex surface on the foot side. Suppose a horse's foot placed on a convex surface; the weight of the animal would then, it is obvious, tend to expand the hoof, and prevent contraction.

* "If the coffin bone of a fore foot is placed upon a level surface, the quarters and heels are the only parts in contact with it; which proves that they are intended by nature to meet the ground first, and to bear the greater proportion of weight; but if the quarters of the hoof be removed to admit of the straight shoe, the portion of weight intended to be borne on the quarters, must be thrown upon the heels; and hence the great mischief which ensues from the common English shoe."

It may be objected to this mode of shoeing, that the convexity of the shoe on the foot side, may be so great, as to expand the hoof too much, and produce disease. Mr. G. is aware of this objection, but thinks it unlikely to happen, as several years have elapsed, without an instance of the kind, in his practice.

He further states, "that there is only one class of hoofs that such a shoe could be applied to, viz. those with extremely concave soles, which are invariably strong, and have abundance of horn; and require a greater opposition than any other to counteract contraction by the inclination of the plane. With all other kinds of feet, if the shoe is clear of the sole, it is not practicable to make the inclination to such a degree, as to prove injurious."

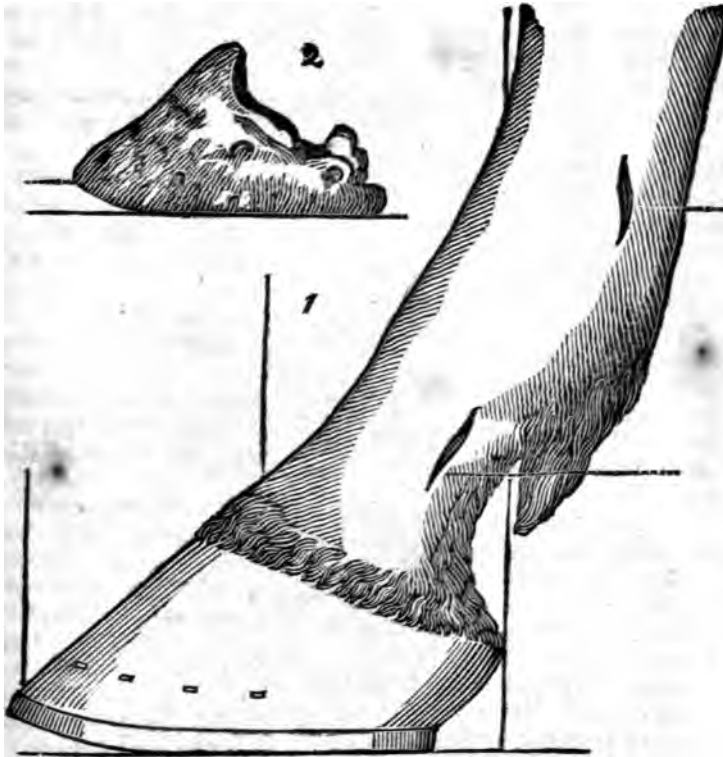
Mr. G. gives particular directions how to prepare the foot, for the reception of the shoe; the result of which is, that the hoof should be so rasped and cut as to conform to the shoe above described, and that the frog, if smooth, firm and even, on its surface, cleft and sides, does not require the use of a knife at all. He disapproves the practice, which some smiths are in, of making a nick, with the rasp, on the external surface of the hoof, under the clinch of the nail, and recommends the shoeing of a horse, as often as once in three or four weeks, whatever kind of shoe may be made use of. If necessary to shoe as often as two or three times a week, as it sometimes is in frosty weather, when the ground is only partially covered, he recommends the use of a shoe with a moveable *ruff* or point, to prevent the necessity of shoeing so often, and the consequent injury of the hoof.

From the structure of the horse's foot, it is evident that nature did not design it to be incumbered with an iron shoe. It is also evident that nature did not intend it to beat upon paved streets, and hard roads. Civilization and luxury render both *now* necessary. It becomes, therefore, an act of humanity, as well as interest, to protect the hoof in the best possible manner. Mr. Goodwin's method of shoeing appears to me admirably calculated to render the motions of the horse easy to himself, to protect and preserve the hoof in its natural state, and thereby prolong the usefulness of the animal.

The following cut, taken from a plate in Mr. G.'s work, illustrates, in a very simple manner, the remarks made at pages 246, 247.

FIG. 1. Represents part of a fore-leg, with a side view of the foot, shod on Mr. Goodwin's system.

FIG. 2. A side view of the coffin bone.



An account of some of the agents, medicinal or mechanical, which have been applied externally, in the treatment of diseases; with notices of some of the writings which have been particularly devoted to this subject. By W. CHANNING, M. D.

[Communicated for the New-England Journal of Medicine and Surgery.]

THE effects of external agents on the body and mind, have always attracted the notice of physicians. The principal interest however, has been excited towards their operation in the production of disease, and the records of medicine are rich in valuable details both of facts and opinions in relation to the subject. Hippocrates led the way in these inquiries. His little work on *air, water, and situation*, has come down to us, and is an admirable treatise on the various operations of these several agents. The value of this work is to be found in its facts rather than its reasonings. But these last are not without interest. They are the efforts of a single mind, most acute in its powers of observation, and distinguishing; but wanting many of the best guides in medical philosophy. His work begins with the method to be pursued in medical study. The physician should direct his attention to all that is interesting in the place in which he is settled. The seasons of the year, the winds, the water, the situation and the soil, all have an influence on the health, and give a character to disease. By studying these, he will learn before hand, much that will stand him in good stead in practice. He will not be surprised by disease, and may prepare himself for many contingencies. Hippocrates next treats of situation with regard to the four cardinal points, and indicates distinctly the diseases incident to each of them. The general influence of winds, particularly upon the water of places is also noticed, and the effects of this last upon health and disease pointed out. The next subjects are mineral waters, the best and the worst; the manner of using them;—snow, rain, and ice water, together with the diseases which prevail where these last are most used. Succeeding these are the importance of foreknowing the seasons, of sickly and healthy seasons, of a southerly winter and northerly spring; of a showery, southerly summer and autumn; and at the conclusion of these topics the reasons and uses of the remarks connected with them are shown. Reference is frequently made to particular stars, and it would seem that Hippocrates considered their rising and sitting as influencing the crises and other circumstances of diseases. The coincidences between these times, of the stars, and the occurrence and characters of diseases were carefully noted by Hippocrates, and were observed to be

very striking, and a direct influence was referred to them, which rather belonged to the seasons of the year in which these stars were considered as ruling.

Following the topics now briefly alluded to, are particular remarks on the effects of climate and situation, on physical and intellectual character. Asia and Europe furnish the illustrations of these remarks, and all that is peculiar to these regions and all that is common to both, in regard to the physical and moral state of their inhabitants, is detailed with an admirable precision. Nothing valuable is omitted, and if this were all that remained to us of Hippocrates, it were enough to give him rank among the distinguished men of all times. I have merely alluded to some of the topics discussed in this book, but it is worthy of remark in conclusion, that succeeding observations on similar subjects have tended to confirm the most important points originally advanced by Hippocrates. There is, it is true, much in this treatise which is purely visionary; many explanations of facts, which are wholly unfounded, and excite astonishment, when taken in connection with other parts of the work. But this belonged to the age more than to Hippocrates, and is rather chargeable on the infancy of inquiry, than to any individual defect in the case of its author.

Inquiries into these subjects have continued to excite interest. Among writers of a modern period, we have Huxham on hot weather; Hillary on the changes of the air;—Gilchrist on sea voyages;—Gregory de cœli mutatione;—Wilson and Falconer on climate;—Cullen de frigore;—Beddoes, Heberden, and Stock, on the effects of cold water;—Robertson on the atmosphere;—Balfour on sol lunar influence in fevers. Currie on the effects of hot and cold water;—Coffin on the warm and cold bath;—Hale's meteorological observations, in his valuable work on the epidemic fever of Gardner, Maine, with many others. Of a similar character are all those works, which have been devoted to the diseases of particular climates, particularly tropical ones. Such are the works of Huxham, Mosely, Lind, Jackson, Sir Gilbert Blane, Sir James Fellows, Pym, Bancroft, Rush, and last, and of high value that of J. Johnson on the Influence of Tropical climates on the European constitution. This is but an imperfect enumeration of works which contain observations more or less full upon the operation of external agents upon health, and their influence in the production, and over the progress of disease.

From observing the operation of external agents in the production of disease, it was natural to conjecture that much might be done in its treatment, by means addressed to the surface of

the body. Without searching for the motive however, the fact is very certain that practitioners have appeared at various periods, who have treated diseases by means principally applied to the skin. They have filled volumes with their success, and strongly recommended their methods to others.

I have been led in the course of my inquiries on this subject, to examine with some care such writings relating to it as I was able to obtain. It is due to the reader however to be apprized that these examinations have not led me to regard the external application of medicines as in any respect superior to the common method of exhibiting them. So far from this, I have been led to attribute the reputed benefits of the external treatment, to a very different cause from the medicinal agency of the articles used. Notwithstanding this result, I have thought it would not be a wholly useless labour to give a somewhat detailed account of some of the means which have been thus employed in the treatment of disease; and, of the books in which their merits have been discussed.

Friction, compression, and percussion, under various modifications, with and without medicines externally employed, are among the most important of these means, and to these I shall principally confine myself. They will be noticed under the heads of *medicated friction*, and *simple friction*; *compression*, and *percussion*.

Medicated Friction.—No external remedy has obtained an higher reputation than friction. It has entered as an important part of medical practice in all periods of our professional history. It entered into what may be termed the tonic treatment of pulmonary consumption, at a period as remote as the time of Hippocrates, and it has not been lost sight of in any subsequent period. It has not been confined to any particular disease, but makes an important part of the treatment of a large portion of chronic affections. In few has it done more good than in that extensive class of affections which appertain to the diseases and disorders of the digestive canal, and in those affections of neighbouring organs, which have their principal source in such disorders. Few have gained more from it than those individuals in whom sedentary habits have produced, and continue, a disturbed state of the abdominal viscera. A very striking example of this kind, is very frequently within the observation of the writer, in which the daily use of long continued and severe friction, by means of coarse cloth over the surface of the body, has preserved a tolerably healthy state of these viscera, amid much irregularity in exercise, severe intellectual labour, and a strong tendency to functional disturbance. The whole value of this remedy is not to be understood by a partial or temporary use

of it, and to obtain its full benefits, the patient is to do much more than the physician. It may be on this account that its uses have not been always properly appreciated, and that means less elaborate in their employment, and more summary in their effects, have frequently superseded its use. In order to insure its faithful employment, in some cases medicinal articles have been directed to be rubbed over or into the skin, and the friction continued until the ointment or wash has been evaporated or absorbed. The majority of those however who have combined medicinal substances with friction, have done it with a view to the medicinal effects of such articles. This has insured the friction, but it has not probably increased its effects. If our object be, in chronic derangement of function, and even in organic changes, to restore health, by making a powerful, and continued impression on the surface of the body, with the state of which every organ of the system so powerfully sympathises, a coarse cloth, a flesh brush, or the bare hand will probably answer the purpose full as well as the most complicated ointment, or best made wash in a whole dispensatory. In this way the impressions communicated from without are healthy actions, and if there be such a thing as sympathy, we may calculate on the restoration of better actions within. Friction is essentially *exercise*. We prescribe it when our patients can take no other, or can only take it irregularly. But this is no reason why it should be made to differ from that which is produced by the motion of a coach, or a horse. The common air is the medium in which the latter is enjoyed, and in which all its blessings are derived, why should we mediate the exercise of a sick chamber?—Friction however in the severer forms of disease can accomplish but one object in the treatment. Medicines will also be necessary. These should be taken after the common method. If they are to produce important effects, and otherwise they should not be used at all, the stomach is the organ whose structure and uses, are most appropriate for their reception, and it has relations with other parts which furnish the best assurances that what is judiciously administered will accomplish the best purposes.

There are cases however, in which it is well known, medicinal substances have been found to act very advantageously from being applied to the skin, and afterwards rubbed into the body. —The specific effects of such remedies have in these cases been produced under such circumstances, and in a manner highly favourable. I refer to those diseases or states of disease which are so frequently relieved, and cured by the specific agency of cantharides and mercury when judiciously applied to the surface of the body. This familiar use of these articles has been extended, and made to embrace many others, and I shall now

notice some of the most striking attempts of this kind which have been made, and of which the results have been submitted to the public. Two works devoted to this subject are now before me; and of these I propose to give some account.

The work I shall first notice is entitled *Le Méthode Iatroleptique*, or practical observations on the efficacy of administering medicines by the way of cutaneous absorption in the treatment of many internal and external diseases, &c. &c. This work is by J. A. Chrestien, M. D. of Montpellier, of which this is the third edition. Some account is given in the introduction of the former publications of the author on this subject, and the use made of his method by others. It appears that Barthez has tried it, and has noticed it favourably. The volume is principally filled with cases. A few pages are occupied with speculations of the author on the mode of action of medicines applied to the skin, the diseases in which the method may be employed, the difference of effects, produced by difference of mode of use of medicines, and rules for their external application. It is natural that the state of the skin in disease should have received much attention from Dr. C. and that he should even have been led to give it a paramount importance, when considering the causes, progress and cure of disease. It is not strange, farther, that while he considers the sympathy between the surface of the body, and internal parts to be perfectly reciprocal, he should still regard the treatment of the skin of the greatest importance in the cure of disease, and this too in full view of the superior adaptation, by structure and function, of internal organs, for the remedial impressions of medicines.

The author is by no means so devotedly attached to his theory, as not to give full liberty to all who will try his method, to explain the facts as they please. He is mainly concerned to procure for it a fair trial, from a perfect conviction of its utility. He speaks in one place as if his method had not received the notice it deserves, and as if he might, by some professional manœuvre, lose the honor of a discoverer. This language is perfectly natural. Discoverers are not wanting in a disposition to believe, that to adopt improvements slowly, is not to adopt them at all; and to regard any other modifications than their own, as attempts to deprive them of their due. But it was wise in the profession, in a case like the present, to proceed with great caution. The *méthode iatroleptique* is not a small innovation on an established practice, but proposes a complete change in some of the best tried methods of medical treatment. It would not, therefore, be true, that it has been slow in its progress, because it was of doubtful success, for it is not so according to the author; or that medical men are unwilling to be enlighten-

ed ; but because in the majority of cases, this method does not propose to do more, or better, than the common method has done for ages, and it has but rarely been successful in the hands of others.

The following are the rules for the employment of medicines externally, according to Dr. Chrestien :

1. To make the applications on parts of the body the most permeable, or best provided with absorbent vessels.

2. To choose a part which has the most direct communication, by means of the lymphatic and cellular systems, with the organ affected.

3. To reduce the substance employed to the finest consistence possible, and to incorporate or dissolve it in the most appropriate vehicle.

Finally, to increase the force of the absorbent system by frictions skilfully managed, and continued a sufficiently long time. This last rule is somewhat equivocal in its import, but if it means that the frictions should be continued a very long time, which it most probably does, it is certainly the best rule in the whole canon.

External use of Camphor.—The first thirteen cases in this work are intended to illustrate the good effects of camphor in various affections. The part to which the remedy was applied was the inside of the thighs in these cases, and the vehicle in which it was used was saliva. The quantity varied from six to twenty grains, and was used at various intervals, according to its effects, and the violence of the symptoms. The affections in which it was employed, were strangury from cantharides used as a blister; in retained urine, ischuria, gangrene, fevers, rheumatism, and mania. These cases were severe, and the whole routine of French practice had been wasted upon them. The camphor was used, and according to the author, with complete success.

Camphor has been frequently used with advantage in the strangury which frequently attends the use of blisters. I have employed it after a different manner, and with different views from those suggested by Dr. C. and with excellent effect.

The method referred to consists in the application of camphor along with the blister; and its advantages are to be found in its tendency to prevent strangury, and in the ease of its application. The following prescription has answered the purpose perfectly. Let from a scruple and a half to two scruples of finely powdered camphor be spread over the surface of the plaster, and be carefully pressed into the blistering ointment. Blisters thus prepared have not been followed by strangury in my prac-

tice, notwithstanding a very strong predisposition to this effect of cantharides has existed in the individuals, upon whom they have been applied. I have never known this affection more severe than in one case, in which the camphor was not used. In a few days after the application of the blister, which had produced so much distress, it was thought proper to apply another. The camphor was now used as above directed, and not the least strangury occurred. It was somewhat remarkable in this case, that two days after the plaster was removed, and the blistered surface was healing, slight strangury was experienced. This may have been accidental, but it is not improbable that in a system so strongly affected by cantharides, the small remains of this article in the body, may have become active, upon the entire removal of the effects of the camphor. This practice is by no means recommended as new, of universal application, or as promising general success. It may be well to try it however in cases in which a vast deal of suffering follows the use of cantharides.

I have not met with any confirmation of the successful use of camphor in other affections of the urinary bladder, as employed by Dr. Chrestien. For rheumatism, a more simple method will be stated in the course of this inquiry.

External use of Opium.—Passing over the external use of a preparation of spirit of juniper, cloves and nutmeg, in curing chorea, in preventing abortion, and checking uterine hæmorrhage, and a similar use of a plaster, as heterogeneous in its constituents as any ancient *Theriaca*, we come to the external employment of opium. The preparation preferred by the author is made by dissolving from 6 to 12 grains of crude opium in an ounce of brandy. This he calls his anti-spasmodic tincture. It is also directed to be filtered, and then forms a less powerful remedy than the unfiltered solution. Occasionally camphor is dissolved in the tincture. From half an ounce to an ounce according to circumstances, is to be rubbed into the inside of the thighs morning and evening, or oftener, according to its effects, or the urgency of the symptoms. The effects of opium thus employed are rarely *narcotic*, and the author claims the privilege of a discoverer from having first employed this article, with views so opposite to those commonly entertained by physicians. The diseases in which he has employed the anti-spasmodic tincture are very numerous. It has succeeded in cases of suppression of; and obstruction of the catamenia, occurring under various circumstances, of different periods of continuance, and with all sorts of complications, whether occurring before or along with the suppression, or as its effects,—in dysmenorrhœa,—colick of all kinds; in fever,—delirium,—epilepsy,—ascites, in numerous affections

of the bladder and kidneys; in these last camphor was combined with the opium, in proportions of from 8 to 16, or more grains of camphor to the ounce of anti-spasmodic tincture. The tincture was farther used in various forms of rheumatism; in all types of intermittents, with and without cinchona combined with it. In some cases camphor was also added, and in two the powder of rhubarb.

When this volume first appeared here, the method of its author, was fairly tried by a friend of the writer, particularly in uterine affections, and in those of the urinary bladder. Though used exactly after the manner of Chrestien, and also with various modifications of his plan, it was abandoned as wholly useless.

Colocynth in Mania.—The next article is the Colocynth. The author prides himself not a little on the success which has attended his use of this medicine in mania. He supposes mania to have its seat in the abdominal organs. This he infers from the disturbed functions manifested by them in mania. These facts had led him to regard the internal use of purgatives as the best means of treating mania. This opinion, however, he has given up and recommends the external use of colocynth; and says it cures the disease, without *notably acting as a cathartic*. This remedy was employed by way of friction in form of tincture, with or without hog's lard, and in powder with lard. Of the former 60 drops or more were used at a time, of the latter from 10 to 30 grains. It was employed once, twice, or more times daily, according to circumstances, and the part to which it was applied was the abdomen. Its only apparent effect was the cure of the disease, and as it seemed to exert no notable influence over the functions of any organ, Dr. C. has given it the rank of a specific remedy in the treatment of mania. The cases in which it was given are detailed with much minuteness, and leave no doubt that they were what Dr. C. believed them to be. Various means had been used without any effect. The external use of colocynth was uniformly curative. The cases are not furnished from Dr. C.'s practice only, it appears on the contrary, that other physicians have tried the same means and with the same result. Whether further experience has confirmed the views of the author, I am not able to say.

Digitalis Purpurea.—Dr. Chrestien being dissatisfied with the effects of digitalis as commonly prescribed, determined to adopt the method of *Brera*, which consists in its external use. He tried it in various forms of dropsy, and with success. He brings forward the experience of other physicians to confirm his own. He employed the article in form of tincture, extract, and powder, most frequently the latter. In one case he used no limits

in quantity, but used a handful at once. The vehicle was either the gastric juice of a kid, of a lamb, or saliva. His doses were, in one case, six grains, in another twenty, of the powder. Of the tincture from half an ounce to an ounce, once or more times daily, in divided quantities, according to circumstances. The places of application were the abdomen, the inside of the thighs, or of the arms. In three cases communicated to him, the external use was combined with the internal. In one of these the dropsy was cured after the patient had taken internally 36 grains of the powder, and employed 138 externally. They were employed on alternate days, or the digitalis was taken internally one day; rubbed in the two following days, omitted entirely the fourth, and begun again the fifth. The same plan was pursued in the other two cases, and is said to have been successful. The effects of the medicine thus used were diuretic and the rapid removal of the hydropic swellings. The digitalis was combined with nitre, and the iris of Florence. It does not appear that in these cases that the digitalis had at any time entered into the previous treatment of these cases, which was inert enough.

Cinchona.—Much of this volume is devoted to cases of fevers and other diseases, in which a tincture of bark, made by pouring 24 ounces of brandy upon 2 ounces of the best red bark, was used successfully after Dr. C.'s method. Two ounces of this tincture were rubbed in daily in divided quantities, and more or less according to the case. The internal use of the resinous extract of cinchona is also mentioned with much approbation. This subject however has no relation to this inquiry, nor have the researches of the author concerning the anti-emetic effects of the powder of columbo, or his discoveries relating to the use of various preparations of gold in syphilitic diseases.

On looking back on the analysis now made of this work of Dr. Chrestien, one circumstance is too striking not to be noticed. It is the fact so frequently stated by the author, that medicines externally employed, do not produce the most common and peculiar effects which are observed to follow their internal use. Digitalis is a clear exception to this rule, and supports rather than invalidates it; unless, as was most probably the case, its internal use increased the urine and cured the dropsy. In the case of cantharides, which may be regarded as another, a powerful and visible effect is produced on the part to which they are applied: changes under the direct and specific agency of the article, take place in the structures or tissues of such part, and the actions consecutive to, or attendant on these, are occasionally communicated to the organs, which are specifically affected by the

article when used internally.* This is a very different thing from what is observed in the external use of other remedies. Opium does not produce sleep, colocynth does not purge, and tartrate of antimony does not vomit. The inference is inevitable that these substances as such, when externally applied, and the remark applies to others, do not produce any effect, and we might as reasonably attribute the cures made under their use, to the hog's lard, the saliva, the gastric liquor of kids or lambs, with which they were mixed, as to the articles to which they are so emphatically referred. The treatment resolves itself then into simple friction, and the chief use of the articles rubbed on the surface, was to insure a faithful use of this powerful agent. I need only to refer to the effects of tartrate of antimony when so used, to support this inference. Under its use, says Dr. Chrestien, in a note to pages 11 and 12 of his work, *the pulse became frequent and strong, there followed considerable excitement through the whole system, with heat of skin, followed by moisture*. Now all these effects are notoriously opposed to the peculiar operation of this remedy. The effects attributed to it however, are such as friction produces, and it is for the production of these friction is most frequently employed.

The second work referred to, is by Mr. Ward, Surgeon.† This volume consists partly in papers originally printed by the author in the London Medical and Physical Journal. They first appeared in the first volume of that Journal in 1799. It contains further a paper published originally in the Edin. Med. and Surgical Journal, and cases and remarks not before published. The preparations used are the tincture of the shops, and pure opium in an appropriate vehicle. In particular instances the powdered opium is preferred to the tincture. In Mr. Ward's practice the effects of these frictions were relief of pain, tranquillity and sleep :—they did not in the least constipate the bowels. I shall not stop here to reconcile the views of Dr. Chrestien and Mr. Ward, on the mode of action of opium externally applied, which are sufficiently opposed to each other ; nor to account for the difference of their experience. Mr. Ward it is true, employed a much stronger preparation than Dr. C. and in some cases carried the use of powdered opium to a great extent. It is natural there-

* In a case of epilepsy related by Dr. Currie, the external application of tobacco to the pit of the stomach, was followed by the peculiar or specific effects of this powerful article.—*Medical Reports*, p. 123. American Ed.

† Facts establishing the efficacy of the Opiate Friction in spasmodic and febrile diseases, &c. &c. By MICHAEL WARD, late Surgeon to the Manchester Infirmary Dispensary.—*Manchester*, 1809.

fore to look for greater effects in his practice. The cases in which opiate frictions were employed, were, first, typhus with delirium. It was begun in one case on the 21st or 22d day of the disease, in the last 48 hours of which the patient, 14 years of age, had taken $5\frac{1}{2}$ grains of opium, 54 of musk, and as much volatile salt. The stomach refused to bear more of these articles. The friction was practised with 6 grains of opium mixed with an ounce of lard, and divided into two parts. One of them was rubbed at once into the inside of one leg and top of the foot. The other in two hours after, on the other leg and foot. Six hours after the friction, he grew calmer, began to doze at 10 hours after, and went to sleep at the eleventh. At 8 P. M. the next day, slight delirium had occurred, the friction was again employed, 6 grains being rubbed in one thigh. Effects, sleep, pulse diminished from 120 to 80 and stronger. 3d day from beginning opiate friction, 8 grains with 3 drams of lard, rubbed in at 5 A. M. on account of uneasiness. At 10 A. M. restless, not delirious, use the friction only 8 or 10 minutes,—wine given, 15 drops tinct. op. taken every 4th hour. At 10 P. M. 3 grains opium rubbed in, same quantity ordered in 4 hours if no effects produced. 4th day, Mr. Ward found that one quantity only had been rubbed in. Patient would submit to the process no longer, calm, rational, bad sleep. Internal use of opium continued, external omitted. 5th day, had slept well,—recovering rapidly.—In this 35 grains of opium were applied to the surface of the body, in somewhere about three days of the disease. The effects of friction were beneficial on the first and second days, for from being in a state of almost hopeless exhaustion, the system rallied. In the two last days of the treatment the friction did no good. It teased, and disturbed the patient, and was so unwelcome as to be positively resisted. In these days wine and tincture of opium *internally* given, constituted the treatment. Mr. Ward does not tell us how much wine was used, but from the doses mentioned of tinct. opii. the patient certainly got from 150 to 180 drops, in about 36 hours, and under this use of the remedy slept well and recovered.

In the two next cases, delirium, laudanum was employed, 3 drams, and as much olive oil in friction. It was soothing in these cases, but in the second, wine and the internal use of laudanum, took its place at the close of the treatment, and produced sleep which did not follow the friction. The friction was discontinued when the internal use of the laudanum was begun.

The next case is lumbago and sciatica. Opium friction in quantity from 6 to 15 grains of opium at a time was employed. This was a case in which the patient had been in the habit of

using opium internally for some time, and was evidently suffering much indisposition from this habit. The opiate friction was substituted. She slept soundly for some nights in the absence of her opiate, and Mr. W. thinks was no more benefited in this way by the friction, because the opium was not powdered sufficiently fine. He substituted the tincture in combination with lin. sapon. and æther. She did not do any better, and the friction with opium very finely powdered, was of no avail. In a case of typhus, communicated by Mr. T. Henry, of Manchester, in which the patient resisted all internal means, opiate frictions were employed, in proportions of 1 scruple of opium, and half a scruple of camphor, to three drams lard. Much relief followed the frictions. A case is communicated by Mr. Barlow—one by Mr. Docker, of spacelated bubo; one of very obstinate hiccup, by Mr. Gapper; one of locked jaw, by Mr. Bontflower; in this last case half an ounce of laudanum, combined with two drams of oil, and the yolk of an egg, form the preparation employed. Half of this quantity was rubbed in night and morning. Except two grains of opium taken at bed time, *internally*, nothing was used except the friction. At page 88, a case of locked jaw from a wound is given. This was communicated by Mr. Reid. An ounce of opium in ointment was rubbed in a day, and continued 6 or 7 days. It was applied to the jaw. Except 4 grains of opium taken daily *internally*, the friction constituted the principal part of the treatment. Cathartic medicines were given when necessary. The treatment in the above cases was successful, with one exception. The success of this mode of treatment was farther manifested in whooping cough, tetanus, diabetus, maniacal delirium, hysteria, convulsions, spasmodic cough of a very severe character, &c. &c.

Mr. Ward does not claim to be the discoverer of the external use of opium in disease. It was suggested to him by an extract of a letter in Duncan's annals of medicine for 1798, from Dr. Chiarugi, of Florence, to Dr. L. Frank, on the effects of opium applied externally in maniacal delirium. There is an advantage to the practice as recommended and employed by Mr. W. in this fact in the history of this method. Mr. Ward's attachment to it wants much of the excess which would naturally have belonged to it, had he felt himself to have been its discoverer, and his confidence in it is not so great as to make all other treatment unnecessary. There is hence nothing exclusive in the method, but auxiliary means are combined with it, which with other practitioners, are generally found adequate to every important end. Mr. Ward's work deserves a respectful notice on another account. It is so written, as not to excite the prejudices

of men against it, and some confirmation is given to his suggestions, by the testimony of respectable witnesses. A farther circumstance in its favour may be found in the statement that some of the ordinary effects, and the most common one of opium were produced under its external employment. This would be a better argument, were it not in some measure invalidated by the wider experience of Dr. Chrestien with the same remedy. In the text of his work, Dr. C. says very few people experience the narcotic effect of opium from friction with it; and, in a note, says, he has met with but one person, M. Méjan, clinical professor at Montpellier, in whom this effect was produced. Is it not probable, therefore, that in Mr. Ward's cases, tranquillity was induced by friction long continued; and that in this state natural sleep took place, to which the patient was strongly disposed by previous watchfulness.

There is another circumstance which is strongly calculated to diminish confidence in the employment of opium, by friction, as a general practice, and that is the great disproportion between the effects of such friction, and the quantity employed. If opium thus used is absorbed, it is not wise to account for the slight effects which ensue from a large quantity employed, by a reference to the structure to which it is applied; and to find in the skin an accommodating degree of unsusceptibility to the transmission either of medicines or their influences. We have the best evidence that an abundant susceptibility of all such impressions exists in this extensive and peculiar organ; and that all the powerful and *specific* effects of some medicinal substances are produced by being rubbed upon, or into it. When, then, the specific, the most ordinary effects of other medicines, are not produced by a similar application, but very dissimilar ones, it seems to me not only unphilosophical, but absurd, to suppose that the skin has assumed a new office, and, in virtue of its new powers, taken away the original and peculiar properties of substances applied to it, and given them new ones. These remarks do not apply in their full force to Mr. W., but no one can read his book without being struck with the manifest disproportion between quantity and effect. That good was done by friction as employed by this author, no one can doubt; and he has performed an important service by the zeal with which he has employed and recommended it.

There are other circumstances which would interfere not a little with the extensive employment of medicines externally, supposing for a moment that they produced their common effects under such use. The skin presents an endless variety of condition in disease. Different portions of the surface, at vari-

ous periods, present different degrees of susceptibility of external impressions. Different parts of it are in different states at the same moment of disease. Its functions or states depend much on previous habits, both as it regards exposure or the opposite. The sympathies between it and various organs differ in degree and kind in different individuals. In some, the sympathy is direct and powerful, rendering extreme caution necessary in the employment of means, which in others are used without the least inconvenience; and this state of sympathy differs in the same individual at different times. In many diseases, the skin is the organ first and most powerfully affected. Its functions are greatly disturbed, while the disturbance in other functions are merely or principally dependent on that of the skin. The surface in such cases would hardly seem the best medium for the transmission of either medicines, or their impressions. These are circumstances which expose themselves to the external application of remedies, and the inference from them is, that under their influence we could neither calculate on the effects of medicines, nor control them.

I have spoken of the insufficiency of various medicines when externally applied, for any very important purpose, in the treatment of disease. A question next arises of great importance in the inquiry, Are there not disadvantages connected with their use? If we make oleaginous substances the vehicle of medicine when applied to the skin, are not its functions impeded, its pores obstructed, and thus some obstacle opposed to very important processes considered in their relations to the *cure* of disease? If we use a spirituous vehicle, is there not some danger, that the rapid evaporation which takes place during friction, with the warm hand upon the warm surface, may be attended with a great waste of heat from the skin; and if the vital powers are very much depressed, a very probable thing in many of the cases in which most good may be calculated on from friction, do we not interfere with the salutary re-action on which so much depends, and endanger an increased congestion in organs already sufficiently loaded?

Whether the above be the case or not, one effect of the extensive external use of many medicines by friction, is very sure to be produced; this is, irritation and inflammation of the skin. The surface after a time becomes sore, and scabs form on it. The range of friction is thus diminished, and the patient is fatigued with the process, and may come at last to oppose its farther use. Now, though abundant observation has demonstrated, that decided and even powerful irritation and ulceration, in the neighbourhood of diseased organs, is highly beneficial in the

treatment, we have no evidence, that great disturbance and disease in the skin at remoter parts is very useful, and if it can interfere with powerful friction it is an evil rather than a good. These remarks are made upon the supposition that the doctrine of Chrestien and Ward is true. The practice becomes still more questionable, upon the more probable presumption, that the external application of medicines is entirely useless.

It may here be asked what becomes of the practice in contusions, sprains, &c. in which so much good is effected by the variety of liniments, fomentations, lotions, and the like, which are daily employed. The experience of Dr. Balfour, to be mentioned hereafter, satisfactorily answers this question. He has found all the good which has been so long claimed for these applications, abundantly produced by judicious bandaging and friction, without the use of any of them.

(To be Continued.)

REVIEW.

ARTICLE VIII.

[Concluded from page 156.]

De l'auscultation mediate ou traité du diagnostic des maladies des Poumons et du Cœur, fondé principalement sur ce nouveau moyen d'exploration. Par R. T. H. LAENNEC, D. M. P. Médecin de l'hôpital Necker, Médecin honoraire des dispensaires, membre de la société de la faculté de médecine de Paris, et de plusieurs autres sociétés nationales et étrangères. Tome second. A Paris, chez J. A. Brosson et S. J. S. Chaudé, Libraires. 1819.

THE third part of this work treats of the rattling noises, or sounds, to be perceived in the thorax by means of the *stethoscope*. The first chapter relates to the examination of these sounds generally.

Rattling, in respect to the respiration, is the term commonly used to designate the sound made by the dying. In them it has its principal seat in the wind-pipe, and is heard by the naked ear. It arises from the accumulation of mucus or other fluids in the wind-pipe, and perhaps also from a relaxation of the vessels of the mucous membrane, which obstruct the free passage of the air, while the organs are not capable of removing the matters accumulated, nor of quick motions so as to give increased velocity to the motion of the air. Mr. L. extends the use of this term, and applies it to all the sounds made by the passage of the air, during respiration, across any liquids which may exist in the bronchia, or in the pulmonic texture. The same sounds may be discovered during a cough, but it is more convenient to attend to them during respiration only.

The sounds, which are comprehended under this description, are extremely various. They can be accurately distinguished only by experience, and the author is much impressed with the difficulty of describing them in words. He says however it is much less difficult to distinguish than to describe them. His plan is first to describe the different species of *rattling*, and then to speak of the other sounds, different from those produced by

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respiration and circulation, which may be heard in the cavity of the breast.

Four principal species of rattling are described : 1st, The humid rattling, or *crepitation* ; 2d, The mucous rattling, or *rumbling* ; 3d, The dry sonorous rattling, or *snoring* ; 4th, The hissing rattling, or *whistling*.

The *crepitating* rattle is very similar to the sound, which one hears in compressing a healthy lung in the dead body ; only it is a little stronger. It is, as has been formerly mentioned, the pathognomonic symptom of peripneumony in the first degree. It is also to be observed in œdema of the lungs, and sometimes in hemoptysis. It is not observed in any other case.

The mucous rattle or *rumbling* is that, which is produced by the passage of the air across mucus, or other similar matter, accumulated in the trachea or bronchia, or in an ulcerated cavity in the lungs. It is the rattle of the dying. This kind of rattling only may be heard by the naked ear.

The dry, sonorous rattle or *snoring* is more variable in its characters than the two first. It consists in a sound more or less grave, and sometimes quite brisk and loud ; and sometimes it resembles the snoring of one who is sleeping ; sometimes it is like the sound, which is produced by striking the string of a base viol, and not unfrequently like the cooing of a turtle dove. This last variety is commonly perceived only on a part of the chest of small extent. Mr. L. has often found its seat to be in pulmonary fistulæ of small size, or in dilated bronchial tubes.

Mr. L. is not satisfied in respect to the cause of this kind of snoring sound within the breast. He is disposed however to attribute it to some change in the form of canals, through which the air passes. He thinks, from examinations after death, that this kind of rattling is produced, whenever any bronchial tube is narrowed at its mouth ; whether this change is occasioned by a swelling of its own coats, or by any external tumour. Such a state of things, relatively speaking, exists in cases of pulmonary fistulæ and dilated bronchia.

The hissing rattle, or *whistling* has many varieties. Sometimes it resembles a little prolonged whistle, and this may be grave or acute, low or considerably sonorous. At other times this sound is of very short duration, and resembles the cry of some little birds, or the noise which is made by suddenly separating two pieces of marble smeared over with oil. These different kinds of hissing noise often occur in different parts of the lungs at the same time, or succeed each other at the same point, at intervals longer or shorter.

Both from the kind of noise, and from examinations after death Mr. L. attributes this kind of sound to mucus, in very small quantity, but exceedingly viscous, obstructing the small ramifications of the bronchia.

In regard to all these kinds of rattling, Mr. L. observes that they are accompanied by a sort of light tremour, which is communicated to the cylinder, whenever this is placed immediately over the point where the rattling takes place.

Many other minute circumstances are stated by the author in this chapter, which we must omit noticing.

Chapter II. of this part is *on the œdema of the lungs*. Article 1st, *on the anatomical characters* of this disease, which consists in an effusion of serous fluid into the cellular texture, whereby the air passages are compressed.

Mr. L. considers this a very common malady, though one which is little known. He believes that it is seldom primary, or idiopathic. It occurs most frequently, with other dropsical affections in cachetic subjects, toward the period of an unfavourable termination in lung fevers, or in organic affections, and particularly in those of the heart. When peripneumony terminates by resolution it appears to leave behind it a great disposition to this disease; and the instances, in which Mr. L. has seen the most universal and greatest œdema of the lungs, have been in persons, who had had severe peripneumony, and who had died under many appearances of convalescence. Chronic catarrh likewise leads to this disease.

This affection, following others, either acute or chronic, does not commonly occur until a short time before death, sometimes only a few hours; but there are cases, in which it seems to have existed many weeks and even months, and in some of these cases it appears to have been idiopathic.

The suffocating orthopnoea, which sometimes carries off children at the end of the measles, is thought by Mr. L. to be an idiopathic œdema of the lungs. He has not verified this opinion by any examination, and we cannot withhold our surprise, that he should consider the affection idiopathic in this case. His own remarks justify the opinion that here, as in all other cases, the effusion of the dropsical fluid is a consequence of inflammation.

The appearances after death in an œdematous lung are as follows. When a whole lung is affected, and the disease is not altogether new, or recent, the organ is found to have changed the slight blush, or rose-coloured hue, which is natural to it, for a pale grey tint; its vessels contain less blood than usual; it is increased in density and weight, and does not flatten, when the thorax is opened; it pits upon pressure more than in a healthy

state, yet it crepitates as much as a sound lung; and when we cut into it, there rushes from it an abundance of serous fluid, which is nearly colourless, transparent, and mixed with very few air-bubbles.

The disease may be distinguished from peripneumony in the first degree, because in this the fluid, which is poured out upon an incision of the lungs, is very bloody and very frothy, and there is a general red colour in the parts diseased. It is however not uncommon to find in an œdematous lung some points inflamed to the first and even to the second degree, and around these points you see the marks of an insensible gradation between the inflamed and œdematous portions. The general inference from this state is too obvious to require a remark.

In a case of œdema of the lungs, which is universal, and has been of long continuance, there is not found the fullness of the blood-vessels in the posterior parts of the lungs, which is commonly to be observed in the dead body.

Article 2d is on the *signs of an œdema of the lungs*. These are extremely equivocal. Difficulty of respiration, a light cough, and an expectoration nearly aqueous, and more or less abundant are the signs which, when alone, would best justify the suspicion of this disease. Percussion is not to be relied on, as Mr. L. thinks. But his cylinder offers two modes of recognizing the disease. While the respiration is performed with great efforts, and the chest is widely dilated, the sound of respiration as communicated through the instrument is comparatively faint. Yet there is heard a crepitation, like that which attends peripneumony of the first degree; only it is much less strong than in this disease.

It is obvious that these symptoms are not sufficient to distinguish the œdema from the inflammation of the lungs. We must look then to general symptoms, or constitutional affection. Even these however, as it appears to us, will not be decisive. But does not the difficulty arise from an attempt to distinguish affections, which differ only in degree? In the most difficult cases at least it may be well thought to do so.

There are peculiar difficulties pointed out by Mr. L. in distinguishing the case, when emphysema and œdema of the lungs exist together. The difficulty in making this distinction exists even when the parts are examined after death. The author points out an ingenious method of making the distinction in this last case; but it must suffice for us to have referred to it.

Similar difficulties will occur, when emphysema and inflammation of the lungs exist together. The author goes fully into this subject, because he says, if it be not rightly understood, the signs

furnished by the stethoscope will be brought into unjust discredit. He concludes this chapter with some remarks on the accumulation of blood commonly observed in the posterior part of the lungs after death. He attributes this accumulation, principally at least, to gravitation, acting when the organs can no longer controul the motions of their contents; but he thinks that this begins to take place some hours before death in many instances, and attributes to it the rattling and oppression at the breast experienced by the dying.

Chapter III. *on pulmonic apoplexy.* Article 1st, *on the anatomical characters of this disease.* These characters, Mr. L. believes, are very little known; although the disease is common, and its principal symptom is familiar to physicians. This symptom is hemoptysis, which commonly in this disease is severe, grave and abundant.

Hemoptysis has been generally attributed to the rupture of a bloodvessel in the lungs, at least when at all abundant in quantity. This opinion has not indeed been maintained in modern times by many, who have given to the subject any careful examination; but it is still the prevailing opinion and is rendered specious, though only specious, by a consideration of the quantity of blood, which is often discharged in a short time.

Hemoptysis does happen in this way, where an aneurism has existed, and perhaps under some other diseases of the coats of the bloodvessels. Likewise, it may so happen from the rupture of a vessel opening in, or upon a tuberculous cavity. In both these cases death commonly ensues immediately. Mr. L. knows only one instance of the latter mode, and that is related by Mr. Bayle. We recollect, however, two cases distinctly; in which tuberculous phthisis at an advanced period proved suddenly fatal under hemoptysis, but in neither were we permitted to inspect the body. We believed, however, that they were both similar to Mr. Bayle's case.

We long since adopted the opinion, which has since been supported by Bichat, that hemoptysis is most commonly owing to some excitement in the exhalant vessels of the bronchial mucous membrane; and that the blood was poured out from the mouths of those vessels. Mr. L. thinks that this happens only when the blood is in very small quantity, as we see it at the beginning of peripneumony.

The more considerable hemoptyses he refers to a cause much more grave, and which operates deep in the substance of the lungs. The change to be found in the lungs after death is this. There are certain portions, which are indurated, as much as when the lungs are said to be hepatized. In extent these portions are

from one to four cubic inches. The indurated portion is exactly circumscribed, and the parts around are in a perfectly natural state. The line of demarcation is at least quite distinct and well-marked, if there be any other appearance of disease in the surrounding parts.

The indurated part is in a state of *engorgement*, not of inflammation. Its colour is of a deep, dark red, like that of coagulated venous blood. When divided by the knife the part has a granulated appearance, much, though not exactly, like that of a hepatized portion of the lungs. The distinction of the different textures is however not to be seen in the indurated portions, while it is very obvious in those which are hepatized.

If the indurated part be divided, you may scrape from the surface exposed a small quantity of blood, very black and half coagulated, but in less quantity as well as less fluid than in almost any case of inflammation. In the middle of the induration, however, there is sometimes a coagulum of pure blood, and the parts around this are a little softened.

These appearances seem to show very clearly that there exists an extravasation of blood in the parts thus indurated. But in what parts is the blood lodged? Mr. L. says "in the parenchyma of the lungs, that is to say in the air-cells." This language is less exact than is commonly employed by this author. We have seen this appearance repeatedly, as we shall mention presently, and upon first inspection we should say that the extravasation had taken place in the cellular membrane. But two considerations make it probable that the blood has been poured out, at least primarily, in the air-cells. First, as some blood has been spit up, it is certain that a portion of it goes into the air-vessels. Second, it seems to us more easy to account for the exact limits of this induration on this supposition, than upon that of an extravasation into the cellular membrane. There are difficulties in either case; but if the blood were in the cellular membrane, it seems to us certain that it would be diffused more extensively, and have its limits less exactly defined.

Mr. L. calls this affection *pulmonic apoplexy*, because the effusion is similar to that found in the brain in certain cases of apoplexy. Almost every part of the body, he says, is liable to a similar effusion. We do not like his name very well, but it is not of sufficient importance to detain us.

In apoplexy it is well known that the blood is often found in one considerable coagulum, and the brain is dilacerated around it. In like manner the lungs are sometimes dilacerated, says our author, and a large coagulum is found.

The indurations, or extravasations, which have been described, are found in both lungs at the same time, and sometimes two or three of them on the same side. They are found mostly near the centre of the inferior lobe, or toward the middle and posterior part of the lungs. Consequently we are to seek for them with the cylinder in these parts.

Mr. M. points out very well the difference between the appearances of the accumulation of blood, as commonly seen after death, in the posterior parts of the lungs, and those of the indurations here treated of. But, a very limited experience will guard against mistake on this point.

Formidable as are the appearances, especially when extensive, in these pulmonic extravasations, Mr. L. believes that they are very often removed by absorption, and the parts are left perfectly sound. He grounds this opinion on the fact, that persons dying many years after formidable hemoptysis, have had the lungs perfectly sound. But it is obvious that this fact is to be received as evidence in favour of his opinion, only when it is sufficiently proved that severe hemoptysis is commonly attended by the indurations he describes. We certainly should not expect to find the lungs sound after such an extravasation, although the blood should have been absorbed, if any laceration has taken place. If the blood has been confined to the cellular membrane alone, or to the air-vessels alone, the parts might be left quite sound. But from Mr. L.'s own observations, it would appear that, in the centre of the induration, a laceration is not very rare.

The facts given us by Mr. L. on this subject are highly valuable; but we have already intimated that we do not accord in the opinion expressed by him that hemoptysis, when considerable in amount, is commonly connected with these indurations in the lungs. We have seen these indurations, which he has described with the utmost exactness, but they have always been in cases of organic disease of the heart, in which hemoptysis had occurred within the few last weeks of life. Mr. L. is a man of so much accuracy that he would certainly have made the remark, had he seen this change in the same cases only. Yet we cannot refrain from suspecting that it is principally in these cases his remarks have been made. We feel justified in this suspicion, because it is not common for death to take place very soon after hemoptysis, except where there is an organic affection of the heart or lungs, or where there is an aneurysm of the aorta, which has burst. We have known two (and the writer of this article only two) cases, in which death has followed hemoptysis in lungs not

greatly diseased. These were cases, in which there was reason to suppose that the hemoptysis would be followed by pulmonary consumption. They were such cases, as are commonly referred to a rupture of a blood-vessel. Our anxiety to inspect the lungs was gratified in only one of these cases, and this we will state briefly.

A tender and delicate woman, about thirty years of age, spit blood profusely three times in the course of nine weeks. Under the third attack she died suddenly, fainting and sinking under her ineffectual efforts to raise the blood as fast as it was effused. Her lungs were examined the next day. The only unusual appearance was a quantity of blood, and that not very large, in the bronchia and extending to the great branch of the trachea, on the right side. The lungs were carefully examined to ascertain if there was any induration from extravasation in any part, but nothing of this kind was to be found. There were a few crude tubercles scattered through the lungs, mostly in the upper part. The blood evidently came from as low as the middle of the lungs, for the bronchia in the upper part were free from blood.

In addition to this evidence in support of our opinions it is to be remarked that in many cases, though not most commonly, patients after hemoptysis, and in some both before and after, are absolutely free from all sense of oppression, or straightness, and of all other marks of irritation or embarrassment at the breast. This would not probably happen, if there was a quantity of blood extravasated, which was to be removed by the slow process of absorption. At least this may be admitted as some addition to the stronger evidence above stated.

Article 2d of this chapter is *on the signs of pulmonic apoplexy*. The principal of these are oppression at the breast, a cough accompanied by much irritation at the larynx and sometimes by lively and even acute pains in the chest; an expectoration of blood which is red, frothy and pure, or mixed only with saliva and the mucus of the trachea and its branches; and frequent and rather full pulse, which is distinguished by a peculiar sort of vibration, even when soft and feeble, as it often becomes at the end of some days.

Mr. L. gives in more detail the symptoms, which mark the engorgement before described; but adds that when the symptoms are less severe and the blood expectorated is in small quantity, the effusion may take place from the exhalant vessels of the mucous membrane. The quantity as above stated will not decide the question, for sometimes the quantity is very small, when the pulmonic apoplexy exists. Mr. L. then points out signs, which he considers more certain.

Percussion is not to be relied on in this case. He resorts to the cylinder, and this gives two signs, when the engorgement exists. The first is the absence of the sound of respiration over a small extent of the lungs; the second is a mucous rattling with a sound, which indicates that the bubbles are large and seem to increase as they move forward in their course.

When hemoptysis occurs without any engorgement, the same rattling is heard, but the bubbles do not seem to be so large as in the other case; and the respiration may be heard in all the parts of the chest.

Finally, where the engorgement exists Mr. L. thinks that the effusion from the mucous membrane sometimes occurs also. He acknowledges a difficulty in applying his rules of diagnosis, and we are persuaded that our readers will join us in thinking this difficulty not small. But he gives the prudent advice to treat every doubtful case as serious, since hemoptysis is so commonly followed by very grave and dangerous diseases. The object in the treatment is to produce resolution in the part affected by an engorgement, and to obviate the occurrence of inflammation. This last is not stated by Mr. L. but we have no doubt on the subject ourselves. The next object is to prevent the recurrence of the disease.

The mode of effecting these objects is highly important and is not so generally understood and adopted as could be wished. We therefore will state briefly our own views of it.

To produce resolution and to prevent inflammation the remedies are rest and silence, bleeding, vesication and low diet. The extent, to which these remedies should be adopted, and especially the bleeding, must be determined by the frequency of the pulse, the degree of oppression and the disposition to cough. The vesication should be employed in all cases, and should be continued, or rather the vesicated part should be kept in a suppurating state, to the extent of from two to four inches square, for many months; that is, until all marks of difficulty at the lungs have been gone for three months, or until the progress of disease shows that a fatal event has become unavoidable. The diet should be at first very abstemious; neither very nutritious, nor stimulant. After the urgent symptoms are removed, it should be nutritious, but as little stimulating as the patient's stomach will permit. If the stomach permit, milk and vegetable matter should constitute the food and water the drink. Meanwhile, as soon as the patient has recovered from the more immediate effects of the hemoptysis, he should begin to go into the open air, and should continue to live out of doors and in exercise as much of the time as possible. On the importance of this part

of the treatment we will not enlarge, as we have recently stated it very fully. (See the review of Armstrong, 3d number of the last volume of this journal.)

Chapter IV. treats of the *signs furnished by the rattling in the chest in cases of pulmonary consumption*. When a tuberculous cavity has been formed, if there exist in it any pus, or mucus, this will be moved by the air during respiration. Hence a mucous rattling may be heard through the stethoscope applied over the part. Though this sound is not heard at all by the naked ear, it is often as loud through the cylinder as the rattling in *articulo mortis*. In this disease the sound is heard only when the instrument is placed over the internal cavity, and it is by this limitation that the case is distinguished from others, in which the mucous rattling is discovered. The sound in this disease (a tuberculous excavation) is distinguished from that in a partial pulmonary catarrh by its degree and its fixedness; that is, in the latter affection the sound is much less strong than in the former, and less permanently in the same spot. There is only one case, in which Mr. L. thinks the sound of the tuberculous cavity can be simulated, and this is when an aneurysm has opened imperfectly into the substance of the lungs and the blood has found its way into the bronchia. This is a very rare case, yet one which is occasionally to be seen.

Mr. L. recently met with such a case in a woman, whom he believed to be affected with *phthisis pulmonalis* on account of the loud rattling in the upper part of the right lung. For several days she suffered extreme orthopnoea, which was not relieved by general and local bleedings, and she died suddenly. We have seen a well marked case of the same kind, as regards the disease, before the stethoscope was invented; so that we can say nothing of the rattling. The patient had profuse hemoptysis in addition to the other symptoms, and was thought by the physician in attendance to have pulmonary consumption. The death was sudden after the hemoptysis had continued several days. It was then found that an aneurysm of the aorta had been gradually opening and the blood had gone partly into the body of the lungs, and partly into the cavity of the pleura on the right side. It was probably in the last struggles the blood had got into this cavity, in which it was found in great quantity.

The author mentions other circumstances, by which the rattling peculiar to tuberculous *phthisis* may be distinguished; but we have stated what is most important.

Chapter V. is on *pulmonary catarrh*. Article 1st on *the acute species and its varieties*. Common as this disease is, it is less studied and less perfectly known by physicians, than many

rare diseases. This happens because the subjects of it, especially if adults, do not generally call for medical aid ; and because its termination is favorable in so large a proportion of cases. But it sometimes becomes a grave disease, and terminates fatally.

The anatomical characters of this disease are a redness and some degree of thickening of the mucous membrane of the lungs. These characters are not constant however ; no doubt, because they sometimes disappear after death.

The matter furnished by this membrane, and expectorated, is at first thin, often transparent, and acrid or salt ; it gradually becomes more thick and opaque ; and at length quite opaque, and white, or yellow, or a little green. This matter produces more or less obstruction in the bronchia, whence results the rattling, which may be heard through the stethoscope. Sometimes the air is prevented from entering a portion of the lungs by an obstruction in one or more large ramifications of the bronchia, and this state of things may be ascertained by the cylinder. The rattling in the trachea and larynx may often be heard by the naked ear.

The inflammation rarely spreads over the whole mucous membrane of the lungs. When it does, the disease becomes very serious, and is accompanied by a severe constitutional affection. This is the affection distinguished by Mr. Badham under the name of bronchitis, and which is sometimes fatal to adults, often to children. The croup also arises from an inflammation of the mucous membrane of the larynx and trachea, often extending to the bronchia. But in this disease, under its worst form, the matter effused coagulates and adheres to the mucous membrane. There are, however, intermediate cases, in which the matter secreted, though very tenacious, does not coagulate ; but in which the voice and dyspnœa approach more or less to those of perfect croup.

Easily as catarrh is recognized in most instances, in severe cases the difficulty of distinguishing it is very great, and mistakes are often committed. Much reliance may be placed on percussion, but this is not certain ; and Mr. L. thinks that the aid of the stethoscope is important in enabling us to establish a certain diagnosis.

The rattling is one of the principal signs of this disease, with which the instrument makes us acquainted. In the beginning, while the inflamed membrane discharges only a thin fluid, and that sparingly, there is a pretty loud rattling to be heard. This is commonly sonorous, and grave, sometimes hissing. Many minute distinctions are pointed out under this head.

In proportion as the secretion of mucus becomes more abundant, the rattling acquires more of the character to which Mr. L. has applied the terms rumbling, or mucous rattling. It is, however, never so brisk and loud as the sound, which arises from tuberculous cavities.

The seat and extent of the disease may be determined by the sounds, which have been described. The danger depends very much on the extent of the affection and the age of the subject. It is greatest in old age.

The sound of respiration is sometimes suspended in the part affected, as already mentioned; but it is commonly restored after a cough and an expectoration; and if it be doubtful whether the want of sound be owing to an obstruction of the air passages by mucus, or to an inflammation of the cellular membrane, the question may be decided by percussion. If the affection be peripneumony, the part will not resound; if pulmonic catarrh, it will.

Mr. L. points out the distinctions between catarrh and emphysema of the lungs; but we must abstain from following him in all his details.

Article 3d is on *chronic catarrh*. Mr. L. divides this into two species, the *humid* and the *dry* catarrh. He subdivides the humid into the mucous and pituitous catarrh. We omit his descriptions of these varieties, but will state the distinctions, which he points out between the mucous chronic catarrh and tuberculous pulmonary consumption, so far as the stethoscope is concerned.

These two diseases resemble each other very closely in respect to the matter expectorated, the emaciation and other symptoms. Percussion does not help us, since in most cases the chest resounds well in both diseases. The cylinder helps us more. If after having examined the patient many times, at different hours, during a good length of time, we cannot find the pectoriloquy, nor the rumbling noise caused by tuberculous matter, nor the tracheal respiration of tuberculous cavities, nor the constant absence of the sound of respiration, which indicates the tuberculous engorgement to a small extent; and if the respiration be heard well in the whole lungs, there is already a strong presumption that the disease is nothing else than a chronic catarrh. If we continue to obtain the same results in repeated examinations for two or three months, the presumption is changed into certainty.

Chapter VII. is on the *metallic tinkling*, a peculiar sound sometimes communicated from the thorax through the stethoscope. This sound is like that produced by striking with a pin

upon a metallic vessel, or upon one of glass, or porcelain. A similar sound is produced by letting a few grains of sand fall into such a vessel. The sound is formed within the breast and does not depend on the material, of which the stethoscope is made.

Whether the patient is breathing only, or talking, or coughing, this sound may be heard. In general it is feeble under common respiration, and more sensible when the patient coughs; but sometimes the reverse is true. Coughing, however, renders it very evident.

This peculiar sound always depends upon the presence of a liquid in contact with air, in some cavity within the chest. The sound results from the action of these two fluids on each other in the agitation of the chest by respiration, talking, or coughing. There are two cases, in which these fluids may exist in contact, so as to produce the sound described. The first is where a liquid, as serum, or pus, co-exist with air, in the cavity of the pleura. The second is, when a large tuberculous excavation, or any abscess, is half full of very liquid pus, and is in communication with the bronchia, so as to admit air.

In the first case Mr. L. thinks it necessary that the cavity of the pleura be in communication with the bronchia. This happens when an ulcerated, or tuberculous cavity, has two openings; one into the bronchia, the other into the cavity of the pleura. If the fistulous opening through the pleura be of a large diameter, Mr. L. thinks the sound will be more sensible in proportion. He thinks, also, that the sound will be strongest, other things being equal, when the liquid and the air are nearly equal in quantity, and less as the one or the other, but especially as the liquid predominates.

The size of the cavity, in which the two fluids co-exist, will influence the intenseness of the sound. For instance, if the cavity be in the substance of the lungs, such as a large tuberculous excavation, the sound will be less intense, than if the fluid be contained in the cavity of the pleura. Likewise, if the cavity be in the substance of the lungs, the pectoriloquy will enable us to recognize the case.

It is possible that the metallic tinkling may be heard in a case of empyema with pneumo-thorax, without any communication with the bronchia. Mr. L. thinks he has perceived it in one such case under peculiar circumstances. But the case is a rare one, and it is not very important to decide the point.

This sound is most important, as it enables us to distinguish the case of empyema, with an opening from the lungs into

the cavity of the pleura. The knowledge of such an opening would influence the decision in respect to an operation for empyema. Such an opening would not necessarily defeat the success of the operation, as experience has shown; but it would render that success less probable.

Chapter VIII. is on the *examination of effusions within the thorax, by shaking the body of the patient.*—At first Mr. L. indulged a hope that he should be able to hear through the stethoscope, a fluctuation, whenever a fluid was effused within the thorax. His hope was disappointed, and he endeavours now to show why it must have been so. He discusses a remark made by Hippocrates that in cases of hydrothorax, but not in empyema, a certain noise may be heard in the chest by placing the ear on the patient's side. Mr. L. believes that Hippocrates was deceived on this subject. But he quotes another observation from the same venerable author, which has been very often repeated, but has very seldom, if ever, been confirmed by later writers. It is the mode of examining the chest by shaking the body, to ascertain if empyema exists; a method to which we adverted in the introductory part of this article. Hippocrates gives this direction; place the patient on a firm seat, let an assistant hold his hands extended from the body, then taking hold of the patient's shoulder, first on one side, and then on the other, observe whether a noise of fluctuation is produced on either, and on which side. Hippocrates remarks in another place that, when there is only a little pus in the cavity of the pleura, more noise is heard, than when there is a good deal; and that, when there is not any noise upon shaking the patient, while other signs clearly mark the existence of empyema, the case is desperate. The inference seems to be that in this last case the pus is in very large quantity.

Mr. L. thinks he can explain the observations of the father of medicine. It is, as he thinks, when there is air in the pleuritic cavity, as well as pus, that a fluctuation can be perceived by shaking. He gives observations, as well as reasons, in support of this explanation. He also opposes the opinion of those, who think this mode of examination too rough, for persons under the distress, which empyema occasions. He says that he has often practised it, even on patients in a state of great suffering and weakness, and that they have not complained. It is not necessary to shake the patient with violence. The motion should be given rather rapidly, and then suddenly arrested. When the fluctuation is not heard by the naked ear, it may be heard through the cylinder.

This chapter closes with the relation of six cases, five of which were fatal. The case not fatal was one of empyema, which had been followed by a natural opening; this opening became fistulous in the year 1813; six years afterwards the patient was living, and in a state which permitted him to receive much enjoyment from life. The first of the five cases illustrates several points, which have been discussed in this work, and although it is long, we cannot resist the inclination to give an abridged history of it.

Case. *Pleurisy and pneumo-thorax, with a fistulous communication from the bronchia to the cavity of the pleura.* J. M. Potu, aged 30 years, had been a soldier and served in Russia, but for three years before his sickness was a porter in Paris. His parents were healthy, his constitution good, and he had not suffered remarkably by any previous disease.

In May, 1817, he took cold, but continued at work. In June his respiration became a little more short than usual. In August his cough had grown much more frequent, and his strength had much diminished. In November he presented the following symptoms.

The face was pale, the eyes brilliant, the emaciation considerable, the skin hot, the pulse small and frequent, the breathing short and frequent, the cough rather strong, the spits moderately abundant, yellow, opaque, and rather viscous. On percussion the chest resounded less than usual on the front and upper part of the right side, moderately between the shoulder-blades, especially on the right, and very well in all other parts. The respiration could be heard by the cylinder in every part; it was, however, less strong than natural under both clavicles, and especially under the right. Under this clavicle, and in the arm-pit on the same side, pectoriloquy was perceived, but not very distinctly. The pulsations of the heart could be heard moderately well under both clavicles. The appetite and thirst were moderate, the belly supple, not painful. He had two or three loose stools daily.

The diagnosis drawn from these symptoms was, *tuberculous phthisis; heart in a natural state.*

Nov. 12. Pectoriloquy became evident under the clavicle and in the arm-pit on the right side, and the respiration was heard better on the left than on the right, over the whole extent of the thorax. Diagnosis:—*tuberculous excavations in the summit of the right lung.*

Nov. 18th. Pectoriloquy was rather less perfect than on the 12th, but a new phenomenon was joined to it. Whenever the patient spoke, there was heard in the tube a trembling, or re-

sounding, like that produced by a very slight blow upon a china, or glass vessel. Respiration occasioned the same sound ; but only during inspiration.

From Nov. 19th to Dec. 30th, the emaciation increased ; the fever was continual, and was marked by a strong paroxysm every evening. This was sometimes accompanied by vomiting of the food and drinks. The cough became more fatiguing, and to the opaque and yellow spits above described, was added a great quantity of thin, frothy, and transparent phlegm. Acute pains were felt in different parts of the chest, which yielded to leeches, flying blisters and sinapisms. The diarrhœa was temporarily suspended by opium.

The thorax examined by percussion at every point constantly gave a more clear sound on the right in front, than on the left, on which last it was almost flat about the third rib. The respiration was heard through the cylinder very well on the whole of the left side, while on the right it could be heard only behind and along the course of the vertebræ, and even there obscurely. The *metallic tinkling* was to be heard at all times when the patient spoke and when he coughed ; often during inspiration, and sometimes even during expiration. At some moments however it could not be heard at all. Its intenseness varied considerably from day to day. This phenomenon did not exist on the left side ; but sometimes on applying the instrument to the præcordia to examine the heart, there was heard to resound in the right side of the breast, at the end of an inspiration, a sort of vibration, altogether like that produced by striking very lightly with the finger an acute string of a harp. The intercostal spaces on the right side became a little larger and more swelled out than in the natural state, and the subcutaneous veins more developed. The patient chose to lie on this side.

There was now added to the diagnosis, *pleurisy with effusion and pneumo-thorax*. In addition, Mr. L. reflecting upon the metallic tinkling in connexion with the other symptoms, supposed that an opening must have been formed from the tuberculous cavity in the summit of the right lung into the pleuritic cavity.

Jan. 25th, 1818, the patient said that for some days he had seemed to hear the fall, or motion of the liquid in the breast when he turned himself. Then Mr. L. tried the Hippocratic method of shaking the body. In doing this he heard a fluctuation similar to that produced by shaking a bottle half full. He could not satisfy himself by the naked ear, on which side the fluctuation took place ; but by means of the cylinder he heard it distinctly on the right side and not at all on the left. This experiment confirmed his former diagnosis.

The disease went on increasing in the severity of the symptoms to Feb. 14th, when the patient begged for an operation to relieve him. In the mean while it should be noted that the symptoms shew that the heart had become enlarged without losing the firmness of its parietes. After due consultation it was decided to perform the operation for empyema by a simple puncture, with a trochar of small size. The opening was made between the 6th and 7th ribs, with due precautions as to the integuments. In the course of twenty minutes there were discharged two pounds of an opaque puriform liquid, of a nauseous and slightly fetid odour, of a greenish yellow colour, mixed with bubbles of air. After some hours of rest this liquid divided into two portions, one opaque, yellowish and made up mostly of little yellowish flakes; the other more thin and transparent. The patient was relieved as the discharge took place; the pulse were not enfeebled. At the end of twenty minutes the discharge began to intermit, and each expiration was then accompanied by the very noisy expulsion of a great quantity of air through the cánula. The opening was then closed.

Immediately after the operation the metallic tinkling was heard with more intensity than before. In the evening the respiration did not seem to be less laborious than before the operation, but the patient felt less oppressed; the skin was warm, the pulse very frequent.

The relief was of short duration; after a few days the symptoms announced that life was drawing to its close, and death took place on the 26th of February.

On the 28th the body was examined in the presence of a number of physicians, several of whom had verified the observations made on the patient during life by the aid of the cylinder.

First, the body being shaken, in the same manner as during life, the fluctuation was perceived.

The body was considerably emaciated. The right side of the thorax was evidently larger than the left. Being subjected to percussion the thorax resounded well on the left side, and on the front of the right; but on the side and on the back of the right side it sounded flat.

Nothing important was observed in the head.

An incision was made on the right side below the second rib, and there escaped at the opening, some air, and instantly afterwards a puriform fluid mixed with bubbles of air.

The thorax being laid open, there were found in the cavity

of the right pleura about two pints of matter, much like that discharged in the operation.

The liquid being discharged, it was quite obvious that the right side of the breast was larger than the left. This side was lined in every part by a thick layer of an *albuminous exudation*, (probably coagulable lymph) the consistence of which varied much ; so that in some places it approached that of cartilage, and in others it was almost as soft as tender cheese.

The lung was folded up toward the vertebral column and the posterior parts of the ribs, to which it adhered, except towards its summit. In front of the lung was an empty space, so that this organ scarcely filled a third part of the cavity of the pleura. It was flattened and flaccid, but yet crepitated a little, and was evidently permeable to the air in its posterior part.

In this lung were a number of tubercles, of the size of a cherry or filbert, and almost all of the consistence of soft cheese. Five tubercles a little larger, entirely softened and almost entirely excavated, opened on one part into the bronchia, and on the other into the cavity of the pleura. On the side toward the pluritic cavity, the walls of these excavations were formed only by the pleura.

Many trunks of the pulmonary veins toward the lower part of the lung were exactly filled, and even distended by clots, made up of blood and fibrine, very firm and appearing as if dried, like those formed in aneurisms. Some other vessels of the lungs contained clots, which were humid and of little consistence.

The left lung was rather large ; it adhered posteriorly to the pleura ; its texture was in general crepitating and not much gorged with blood ; it contained many tubercles of the size of hemp seed, grayish in colour, and semi-transparent ; some of these were more advanced, and two or three of a larger size had a kind of thick paste inclosed in thin cavities, which did not appear to communicate with the bronchia. At the anterior part of this lung, about the height of the 4th rib, was an excavation, three quarters full of tuberculous matter, softened to the consistence of porridge. This excavation did not appear to communicate with the bronchia, and Mr. L. supposed that some matter had been removed by absorption.

The heart was a little altered from its sound state, but not in any very important degree. There was a small ulcer in the larynx.

The fourth part of this work relates to *the examination of the circulation*. The first section of this part contains *an analysis of the pulsations of the heart in the state of health and in that of disease*. Chapter I. *on the pulsations of the heart generally*.

The alternate contraction of the ventricles and auricles of the heart produces sounds very distinct from each other. These, being heard through the stethoscope, enable us to study the movements of that organ more exactly, than we can do by inspection, when the thorax is laid open in living animals. The motions of the heart may be examined under four relations : 1st, the extent to which they may be heard by means of the cylinder ; 2d, the shock, or force of impulse of the organ ; 3d, the nature and intenseness of the sound which is heard ; 4th, the rhythm, according to which the different parts of the organ contract.

In examining the actions of the heart, it is always necessary to bear in mind, by how many accidents, moral and physical, those actions may be influenced. Likewise there exist, not very rarely, slight defects of proportion between the heart and other organs of the body, and between the different parts of that organ itself, which are not so great as to impair the health, but which will vary the actions from the most perfect standard.

Chapter II. *On the extent of the pulsations of the heart.* The cylinder being applied over the heart, the pulsation may be perceived to be under the instrument only, as if the impulse was limited to that spot, or it may be perceived to be spread over a considerable extent of the chest. The instrument being applied to different parts of the thorax, the pulsation will be discovered more or less extensively in different cases.

In the most natural and most perfect state, the pulsations will be heard only in the *præcordial* region ; that is, in the space comprehended between the fifth and seven ribs on the left side, and under the lower part of the sternum. The motions of the left side of the heart are heard in the space first described, those of the right in the other. Yet in many instances, where health exists, the pulsations are heard much more extensively. In such cases they may be heard in the following places, most frequently in that first named, and less in the successive ones, according to the order in which they are arranged, viz. 1st, on the left side of the breast, from the arm-pit to the region, on a line with the stomach ; 2d, on the right, in the same parts ; 3d, on the posterior part of the left side of the thorax ; 4th, on the posterior part of the right side, but here very seldom. If one hears the pulsation in the 2d, 3d, or 4th of these places, he may be sure that he will hear it in those preceding, unless some particular cause occasions a deviation. Some such causes are pointed out by the author. If the extent of the pulsations of the heart exceed the limits above stated, there will commonly be found to exist some disease of the heart, though this is not always of a formidable character.

The author believes that the extent, to which these pulsations may be perceived by the cylinder, is always in an inverse ratio to the strength and thickness of the parietes of the heart. If, on the contrary, the pulsations are perceived only in the præcordial region, and there be present other signs of a disease of the heart, that disease is a *hypertrophy** of the ventricles, or of one of them. But if there be not any other sign of a disease of the heart, we may infer that the parietes of the left ventricle have unusual thickness and firmness. There are some qualifications to these remarks, which we need not quote in this general view of the subject.

Chapter III. *On the shock, or impulse communicated to the ear by the pulsation of the heart.* The intenseness of this shock is, in general, in the inverse ratio of the extent of the pulsations, and in direct ratio with the thickness of the parietes of the ventricles. When a hypertrophy exists in a great degree, the impulse is given in a very gradual manner; it seems as if the heart, swelling up, was applied to the parietes of the thorax, at first by a single point, then by its whole surface, and as if it then became flattened all at once. It is during the systole of the ventricles only that this impulse is felt; or, if something like it is produced by the contraction of the auricles in a few rare cases, the difference is easily distinguished.

When hypertrophy exists without dilatation of the cavities of the heart, the strong impulse is felt only in the præcordial region; but when with dilatation, that impulse is felt in more distant parts of the chest.

Chapter IV. *On the noise, or sound produced by the pulsations of the heart.* During a palpitation, or under febrile excitement, one may often hear a sound produced by the contraction of his own heart. Although it is doubted by some persons, we have good authority for believing that, in some rare cases of disease, the heart may be heard to beat at some distance from the patient. The application of the hand often gives a sensation, separate from that of the shock, which makes one seem to hear a sound within the breast of the patient. But the cylinder enables us to obtain the sensation of a sound in this case much more distinctly. With

* We venture to adopt this term from the French *hypertrophie*; as we do not know any, which will exactly answer to it, already in use in our own language. In conformity with its etymology it means an increase in the fleshy substance of a part, without implying that there is any change in the nature of this substance, or any disproportionate increase in any of the textures, which enter into its composition.

very few exceptions a sound may always be heard by applying this instrument to any part, where the pulsations of the heart can be perceived at all.

In the natural state there are two successive sounds ; one from the contraction of the auricles and one from that of the ventricles. The first is clear, sudden and analogous to the clacking of the valve of a pair of bellows ; the second is more dull and more prolonged, and it coincides with the pulse in the artery and with the shock or impulse before described.

The sound heard at the lower part of the sternum belongs to the right cavities ; that between the cartilages of the ribs to the left cavities of the heart. The sound is similar and equal in these two places, except where there is some disease in the organ. It is the sound only, and not the impulse, or shock, which we commonly perceive at a distance from the region of the heart.

The sound is stronger, the more thin the parietes of the ventricles of the heart and the more feeble impulse. When hypertrophy is carried to an extreme degree, the contraction of the ventricles produces only a shock without any sound, and that of the auricles occasions a very dull sound, which can scarcely be heard.

The author makes many other remarks on this subject, among which we can only notice that sometimes the lungs insinuate themselves in front of the heart, especially in cases of emphysema of the lungs. The sound is modified considerably by this circumstance and would lead to error, if the cause were not adverted to.

Chapter V. *On the rhythm of the pulsations of the heart.* By rhythm the author means the order of the contractions of the different parts of the heart, as they are discovered by the cylinder, their respective duration, their succession and, in general, their relation to each other.

He refers first to the heart of a man in perfect health, and in whom that organ is formed in the proportions most favourable to the free exercise of all its functions. But what are these proportions ? He gives us the answer, which he has derived from an attention to this subject in numerous dissections, during nearly twenty years. It is as follows.

The size of the whole organ should be about equal to that of the fist of the subject ; it may be a little smaller, or a very little larger. The parietes of the left ventricle should be a little more than twice as thick as those of the right ventricle. Their texture, more firm and more compact than that of the muscles, should be such as to prevent them from flattening when the ventricle is

opened. The parietes of the right ventricle ought to flatten or fall in, when divided; its *columna carnea* should be larger than those of the left, and its cavity a little larger than that of the left.

In examining such a heart, by the cylinder, the pulse being felt at the same time, the following phenomena will be observed, viz: at the moment when the artery strikes the finger, the impulse of the heart is felt lightly, and the sound, already described, of the contraction of the ventricles is heard. This is *immediately* followed by the more brisk sound of the auricles under contraction, and this is without any impulse. The duration of this sound is evidently shorter than that of the first. Then follows a short, but well-marked interval of rest, when the same round of phenomena commences anew. The time occupied by these several operations is estimated by Mr. L. as follows, viz: nearly or quite a half is taken up by the contraction of the ventricles, from a quarter to a third by that of the auricles, and a quarter or a little less by the interval of rest. These circumstances are best observed when the pulse are infrequent, and in cases of hypertrophy of the heart, when moderate in degree.

When the pulse are more frequent than natural, the auricles are not quickened in their motion, or only in a very slight degree; the ventricles are quickened in theirs; and the period of rest is no longer distinguished. Meanwhile the impulse is diminished and the sound is increased. When the pulse are less frequent than natural, the time of the contraction of the ventricles is increased, while the other periods are not changed.

Chapter VI. *On palpitations.* By palpitation of the heart is commonly understood a pulsation of that organ, which is perceptible to the patient and inconvenient to him, which is repeated more frequently than is natural, and is sometimes unequal in respect to its frequency and in respect to the development of the organ. That there is a variety among the affections, which pass under this name, we learn from our common examination of patients, who suffer them; but still more certainly we learn this from the use of the cylinder; so that the author concludes that there is nothing common to them all, except that the patient feels his heart beat.

In some cases the frequency of the pulsations only is increased. This happens especially, when the ventricles are dilated. From this cause Mr. L. has known an instance, in which for several days the pulse, very small and feeble, beat 160 to 180 times in a minute.

In other cases both the force and frequency of the pulsations are increased at the same time. This will happen under either physical, or moral excitement; also, when a hypertrophy of the heart exists in a slight degree.

Chapter VII. *On the irregularities of the pulsations of the heart.* These irregularities may exist without palpitations. They are very commonly noticed in old men, in whom there is not any evident alteration from a state of health.

The variety in these irregularities is generally known. Mr. L. enters into some examination of them, and mentions one, which the cylinder has discovered to him, in which the auricles make two, three and even four contractions in the usual time of one, and in correspondence with only one contraction of the ventricles. This is rare and happens only in cases of hypertrophy of the ventricles.

Chapter VIII. *On intermission in the pulsations of the heart.* This is a long chapter, and contains a discussion of some interesting points. Notwithstanding the length, to which this article has already been extended, and the importance of what remains of the work under review, we cannot refrain from attending to some of these points.

An intermission in the pulsation of the heart may occupy the time of one pulsation, or less, or more than that time. Most commonly it occupies less, and this is commonly the case in old men, who are in health. This happens after the contraction of the auricles, that is at the period of rest before described; and sometimes the length of the rest would not be considered unnatural, if the pulse were not frequent at the time. These intermissions do not return at regular intervals. They are liable to be confounded, if we examine the artery only and not the heart, with a false intermission, which the author has previously described, and in which the pulse in the artery seems to intermit, because the contraction of the auricles is now and then much prolonged.

The intermission, which consists in the absence of one complete pulsation and which sometimes returns at exact periods, as once in ten or twenty pulsations, constitutes the precursory sign of a critical diarrhœa, discovered by Solano of Spain. Mr. L. says that he has frequently verified the observations of Solano on this point; but he believes that the sign shows itself in some epidemics and not in others.

There is another kind of intermission, which is rare, in which the artery remains full while the heart seems to rest. Mr. L. says that he has never had a chance to examine the heart by the cylinder during an intermission of this kind.

The author proceeds to remark on the insufficiency of our examination of the pulse of the arteries, or even of that of the heart, *by the hand only*, in order to ascertain the state of the circulation. It is the ease, with which this is done, which has led

physicians to rest satisfied with it. Much undoubtedly is learnt by it, but Celsus and many other eminent men since his day have told us how fallacious the pulse is, as a guide. In respect to the important question, whether to take away blood; the pulse cannot be trusted to decide us. In prognosis and in diagnosis it is equally fallacious. We will not cite the instances stated by Mr. L. He says if any one will be in the habit of examining the actions of the heart by the cylinder, he will soon learn that the phenomena do not bear the correspondence with the pulse, which we have generally been taught to believe that they do. He infers that the arteries have an action independent of that of the heart, which both from peculiarity of constitution, and under disease is often rendered very evident and well marked. This doctrine has been in some measure assented to by all, who have acknowledged the difference often manifested in the effects of local and general bleeding. The former doctrine is supported by the difference in the effects of a spontaneous hemorrhage, and those of an artificial hemorrhage equal in amount.

The author also maintains that the capillary circulation is in some measure independent of the general circulation; an opinion, which has always appeared to us to be in accordance with facts occurring every day in medical practice.

If we examine the heart by the cylinder, we may always, as thinks Mr. L., be able to decide upon the propriety of blood-letting. Whenever the ventricles of the heart contract with energy, however feeble the pulse, we may bleed without fear; but, if they contract feebly, however strong the pulse, we must be cautious in taking blood. If the heart and pulse are both feeble, we must abstain from this operation, whatever be the name of the disease or whatever the organ affected. At the most, in such a case, if there be signs of local congestion, we should try a few leeches, and watch the effect on the system.

If the rules here given be worthy the confidence, which the author places in them, we shall join him in the opinion that the use of the cylinder for the purpose above mentioned, is more important, or at least must be more generally advantageous, than any other to which the instrument can be applied. The question respecting bleeding is one of daily occurrence; the diagnosis in respect to diseases of the heart and lungs, is a subject, which less frequently embarrasses the physician, although highly important to be made in many instances.

The second section of the fourth part is *on diseases of the heart*. Chapter I. *on diseases of the heart in general*. Article 1st, *on the symptoms common to all diseases of the heart*. These are habitually short and laborious respiration; palpitation

and more or less of suffocation, constantly produced on rising ground, in walking fast, by lively affections of the mind, and occurring even without any known cause; frightful dreams, the sleep frequently interrupted by waking suddenly in surprise; and a sort of cachectic paleness with a disposition to dropsical effusions, which increase as the disease advances. To these symptoms is sometimes joined *angina pectoris*, a nervous affection, of which the essential characters are a sense of suffocation, of pressure and constriction about the region of the heart, and a numbness in the left arm, more rarely in the right, and sometimes in both arms at once.

At a more advanced stage of the disease the patient becomes incapable of continuing in the horizontal position, he sits with his head leaning forward, and his trunk a little bent; and often maintains this situation night and day; his face, more or less swollen, sometimes very pale, most frequently acquires a deep violet colour in particular parts, or over its surface generally. His lips particularly become almost livid and at the same time full and prominent. Dropsy now succeeds in any, or every part of the body.

The derangement of the capillary circulation and the gorged state of the extreme vessels, are shown not only by the dropsy and colour of the parts already mentioned, but by other symptoms, which mark the state of the internal organs. To this cause are to be referred the hemoptysis, pains in the stomach and vomitings which often attend diseases of the heart, as also apoplexy, which frequently terminates those diseases, and particularly the dyspnoea, which has so often caused those diseases to be confounded with many others under the name of asthma.

Article 2d. *Alterations produced by diseases of the heart upon the texture of other organs.*

Article 3d. *On the causes of diseases of the heart.*

We must pass over these articles; but not because they are wanting in useful observations.

Chapter II. *On hypertrophy of the heart.* Article 1st. *Anatomical characters of this disease.* The principal of these is an increased thickness in the muscular substance of the heart. There is not an enlargement of the cavities, but most frequently even a diminution of them. This simple affection is not very common, and Mr. Corvisart seems not to have seen it; for he supposed that the thickening of the parietes was always accompanied by a dilatation of the cavities.

The thickening, in this case, is always accompanied by a considerable increase in the consistence of the organ; unless

when the hypertrophy is joined to an affection to be described hereafter under the name of a *softening of the heart*.

The hypertrophy may be in one or both ventricles; it may exist in the auricles at the same time, but this does not often happen. Yet the latter are sometimes the seat of the affection, when the ventricles are in a natural state.

The parietes of the left ventricle are sometimes double their natural size, especially at its base. The apex is often, but not always, unaltered; or even becomes more thin than natural. The *columnæ carneæ* are enlarged in proportion to the parietes. The muscular substance, which divides the ventricles, is greatly increased in thickness, but not so much as the other parts. The muscular substance of the whole ventricle sometimes has a firmness more than double of what is natural to it, and its red colour is deepened greatly. The cavity of the ventricle is sometimes so diminished that in a heart double its usual size, it will scarcely contain the meat of an almond. When the left ventricle is thus enlarged, the right ventricle lays upon it flattened, and scarcely extends to the apex.

The hypertrophy of the right ventricle is distinguished by anatomical characters, analogous to those above-described; the natural proportions of the parts being considered.

Article 2d. *Signs of hypertrophy of the left ventricle.* These are the symptoms described by Mr. Corvisart, as belonging to the active aneurism of the heart. They are, in addition to those of organic diseases of the heart in general, a strong and full pulse, strong pulsations of the heart, which are felt to be so by the patient, and by any one, who places his hand on the region of that organ, an absence or diminution of sound upon percussion on that region, and a complexion rather red than violet. But no one of these symptoms is constant; the pulse especially are very deceitful; for they are often quite feeble, even when the disease exists in a high degree.

The cylinder enables us to decide the point with great certainty. It must be applied between the fifth and sixth ribs, and then we find that the impulse is very strong, and the sound more dull than in the natural state. The contraction is prolonged in proportion as the hypertrophy is more considerable. The contraction of the auricle is very short, not so sonorous as usual, and in bad cases scarcely to be heard. At the same time the pulsation of the heart can be heard only over a small space, and most commonly can scarcely be perceived under the left clavicle and at the upper part of the sternum.

The patient feels more habitually in this disease, than in any other, the pulsations of his own heart; but is not very subject to

strong palpitation. Irregularities and intermissions of the pulse are rare in this disease.

Article 3d. *Signs of hypertrophy in the right ventricle.* The signs, by which principally Mr. Corvisart distinguishes this affection from that last described, are a greater difficulty of respiration, and a deeper colour of the face. The swelling of the external jugular veins, accompanied by pulsations, analogous and synchronous with those of the arteries, were mentioned by Lancisi as a sign of this disease. Mr. Corvisart rejected this sign, but Mr. Laennec confirms it as one of great value.

When the cylinder is placed on the lower part of the sternum, the impulse is greater and the sound more dull than natural; yet the sound is not so dull, as that attending the hypertrophy of the left ventricle. This disease is more commonly accompanied by a dilatation, when the right ventricle is the seat of it, than when the left is.

Article 4th. *On the simultaneous hypertrophy of both ventricles.* In this case there are found on each side the anatomical characters already described. The symptoms also are those, which belong to the hypertrophy of each ventricle separately; only that those, which appertain to the right ventricle, predominate.

Chapter III. *On the dilatation of the ventricles of the heart.*
Article 1st. *Anatomical characters.* The dilatation of the ventricles, called by Mr. Corvisart passive aneurism, presents the following characters, viz. increase of the cavity of the ventricles, and a thinness of their parietes, commonly accompanied by a softening of the muscular substance. This affection might exist in either ventricle alone, but most commonly it is found in them both at the same time.

Article 2d. *Signs of the dilatation of the left ventricle.* Mr. L. thinks the signs of this affection, mentioned by Corvisart, are not to be relied on. The stethoscope he considers more trustworthy. In this case the instrument must be applied between the cartilages of the fifth and seventh ribs. The sound will be clear and noisy. The extent, to which the sound may be heard, and its degree of clearness mark the degree of the dilatation.

Article 3d. *Signs of the dilatation of the right ventricle.* Mr. L. thinks that Corvisart is wrong in two points as regards this affection. Corvisart does not rely on the swelling of the external jugular veins, while Mr. L. thinks this sign of great value. Corvisart lays great stress on the flat sound produced by percussion on the part, while Mr. L. has remarked that dilatation without hypertrophy of the right ventricle does not occasion that sound. To pass over other things, Mr. L. considers the only constant

and pathognomonic sign of this affection to be the noisy sound of the heart when examined by the cylinder placed on the lower part of the sternum, and between the cartilages of the fifth and seventh ribs on the *right* side. The degree of dilatation is measured by the extent, to which the heart may be heard.

Chapter IV. *On dilatation with hypertrophy of the ventricles of the heart.* The union of these affections is extremely common. It is more so than simple dilatation, and still more than simple hypertrophy. The symptoms, attending this complicated affection of the heart, are compounded of those attending the simple affections. The diagnosis of the affections of the two sides of the heart depends on rules already sufficiently pointed out.

Notwithstanding the reliance, which Mr. L. places on the use of the stethoscope, he expressly states that it is not to be trusted as infallible in respect to diseases of the heart. On the contrary he considers this a subject, on which mistakes are easily committed. Most especially one should not decide that the heart is diseased merely from the signs furnished through the instrument, when the general symptoms of a morbid affection of that organ are wanting. Both dilatation and hypertrophy of the heart consist only in a disproportion between that organ, when compared with the other organs of the body. Such disproportion may exist originally to a certain extent, or may be induced during life, and yet may never amount to so much, as would constitute disease. We can only say in such a case that there exists a danger of such a disease. This cannot well be learnt by any other means except the stethoscope; and when this danger is known to exist in any case, the subject of it should be directed to the means and the cautions, by which the evil may be averted.

It remains to be added that in certain cases the contractions of the heart lose the characters, by which its dilatation, or its increase of substance may be known, although these affections exist to a great degree. These cases are, 1st, The agony of death and the orthopnœa, which frequently precede death for some days or even for some weeks; 2d, The coincidence, with a disease of the heart, of some other affection, such as is capable by itself of producing a strong dyspnœa; as a peripneumony, œdema of the lungs, hydrothorax, &c.

Chapter V. *On the dilatation of the auricles of the heart.* This is very much more rare than a dilatation of the ventricles. When it does occur it is almost always, though not always, combined with a similar affection of the ventricles. A dilatation of the auricles is likewise accompanied in most, if not in all cases, by a thickening of their parietes. Mr. L. gives the rules, by

which we should judge on the dead subject that these changes have occurred.

According to Mr. L.'s observations the dilatation of the left auricle is always produced by a contraction of the orifice, by which it opens into the corresponding ventricle; while that of the right auricle is commonly produced by a hypertrophy of its ventricle. It is partly perhaps from the complications spoken of in these cases that Mr. L. has not been able to make out clearly the signs, furnished by means of the cylinder, where the auricles are dilated.

There remain eighteen more chapters in this second section of the fourth part. They relate to various diseases of the heart and to aneurisms of the aorta. They deserve a careful perusal by all, who wish to study the diseases of the organs of circulation. But some of the affections treated of are rare, and others are imperfectly marked during life; and considering the length to which this article has been protracted, we have thought it best to stop here.

We may be permitted to say that the analysis we have made of this work has cost us much labour. But it would be injustice to Mr. Laennec not to say that our review gives a very imperfect representation of the learning and original observations, which his work displays. We have already given some opinion respecting the value of the stethoscope. The continued use of this instrument has satisfied us more and more of the benefits which may be attained by it; but we believe it must be used a long while before so much can be ascertained by others, as has been by the inventor. On this point it may be proper to add that much must depend on the perfection of the sense of hearing. A man with a nice ear for music would probably discover much more by this instrument than one, who has not that organ so delicately constituted.

ARTICLE IX.

The Pharmacopœia of the United States of America. 1820.
By the authority of the Medical Societies and Colleges. Boston: Printed by WELLS & LILLY, for CHARLES EWER. Dec. 1820. 8vo. pp. 268.

IN the year 1808 the Massachusetts Medical Society published a Pharmacopœia. While it was in preparation, circular letters were sent to the different medical institutions in the United States, inviting them to co-operate in the work, and to ren-

der it national. The proposition was not acceded to, and the pharmacopœia appeared as the work of a medical society of a single state. After the lapse of twelve years this subject was brought before the medical public by an individual of the state of New-York, and arrangements were made for the formation and publication of a national pharmacopœia. We cannot avoid expressing the gratification we experienced in viewing the zeal and unanimity with which the medical faculty of the United States undertook this labour, and the completion of the pharmacopœia in the short space of about two years. It is true the labour has been lightened by the facility with which recourse might be had to the pharmacopœias already published; but no little time and judgment was requisite to become acquainted with, and select from, the indigenous articles of our own country, those only which experience had proved to be worthy a place in the *materia medica*.

The present volume, it is conceived, is to be considered rather as the ground work of a more perfect pharmacopœia, than as one which will neither require nor admit of any essential improvement. In the formation of a pharmacopœia there are so many sources of error, that much time and immense labour are necessary, both to avoid what is wrong, and adopt that which is right. The mode by which the work under review was compiled, was by no means favourable to its accuracy or correctness. Gentlemen engaged in an active profession, were under the necessity of leaving their homes, and of travelling to some distance, to meet in the district conventions. While there they were of course anxious that no time should be lost, and the various subjects connected with the pharmacopœia were necessarily commented upon and passed with a degree of haste which could not but be injurious to the work. In the General Convention the principal business consisted in collating the different pharmacopœias presented by the district conventions; business which, in fact, required a great deal of time, labour, and knowledge. It was hardly to be expected that those on whom the labour devolved—physicians, drawn from their necessary pursuits at home to the capital of the nation, could keep together sufficiently long to prepare, from the materials offered to them, a pharmacopœia which should require no change. The convention, in fact, perceived the difficulties in this respect, and they endeavoured to find a remedy, in the provision for a new edition of the work every tenth year. These remarks are made not with any view to undervalue the pharmacopœia, but to suggest to those who might be disposed to take exception to some parts of it, the difficulties that were to be encountered in the formation of a general pharmacopœia of the United States.

That a work of this kind was wanted there can be no doubt. The formulæ of the apothecaries in different states, and even in the same state, with the exception of Massachusetts and New-Hampshire, were varied according as those of foreign pharmacopœias, or dispensatories, or those of domestic origin, were followed. In consequence preparations of the same name were found to differ either in the nature, or the proportion of their ingredients. This difference constituted a serious difficulty when such preparations were mentioned in our medical journals, because in one part of the country they were expressed in the language of the Massachusetts pharmacopœia, in another in that of the New-York hospital, and in a third in that of the London or Edinburgh pharmacopœia. It was, therefore, desirable that some standard should be formed by which pharmaceutical terms should be uniform throughout the United States, in order that while the names appropriated to specific articles should be intelligible and familiar to all, all sources of error or mistake in the composition or prescription of medicines might be avoided. The greatest obstacles to the formation and adoption of such a standard work, was the vast extent of our country, and the difficulty of obtaining an active and efficient co-operation among its physicians. These difficulties, however, disappeared on experiment, and this important business was conducted with a degree of dignity, harmony, and dispatch, which could not have been exceeded in the medical society of any single state.

The mode by which this design was carried into execution, is detailed at large in the introduction to the American pharmacopœia, and to this we shall take the liberty of referring our readers. We shall merely state in general terms, that the United States and their territories were divided into four districts, in each of which conventions were formed, viz. the northern, comprehending all New-England; the middle, including New-York, New-Jersey, Pennsylvania, Maryland, Delaware, and the District of Columbia; the southern, consisting of Virginia, the Carolinas, Georgia, Louisiana, and Indiana; and the western, composed of Ohio, Kentucky, and Tennessee. In each of these district conventions it was proposed that a pharmacopœia should be prepared, and presented by its respective delegates to a general convention, to be holden at Washington in January, 1820. To this convention, which assembled at the capital at the time appointed, two pharmacopœias, one from the northern, and the other from the middle districts, were submitted. "These were duly examined and compared in detail, and their contents, with such additions as were thought necessary, consolidated into one

work, which after full revision, was adopted by the general convention, as the American Pharmacopœia." *Introduction.*

One of the principal difficulties, it appears to us, with which the committee had to contend in the formation of the pharmacopœia was the extent to which they should go in the admission of indigenous articles into the *Materia Medica*. Popular experience, and the researches of botanists have brought to light a variety of plants possessing medicinal properties, which are peculiar to our own country. In many parts of the United States the difficulty of obtaining articles of foreign growth, has led physicians to substitute those which are native, the catalogue of such plants is already extensive, and it is to be feared that their medicinal powers have been rather exaggerated than undervalued. It was a work of no small labour, and requiring no little knowledge and judgment to discriminate between those which were really active and others that were said to be so, or whose powers had not been sufficiently demonstrated by general experience. The committee observe that

"In the present work those native articles have been introduced which were considered to possess qualities sufficiently important, or which were found to be so much employed by practitioners, as to give them any claim to the character of standard medicines.

"With a view of discriminating between articles of decided reputation or general use, and those the claims of which are of a more uncertain kind; the convention determined to refer to a secondary list such substances as were deemed of doubtful efficacy, retaining on the principal list articles only which might be considered of standard character."

"In doubtful cases they have preferred to swell the subordinate rather than the primary catalogue, especially as this arrangement will be most likely to prompt further investigations into the character of the substances in question."

Another difficulty in the arrangement of every modern pharmacopœia must exist in the nomenclature or the names of the officinal articles and their compounds. It is conceded, says the committee, that the essential properties of names ought to be expressiveness, brevity, and dissimilarity. Where these qualities can be preserved without too great a departure from language previously in use, they afford the best grounds of convenient and intelligible nomenclature. Proceeding on this principle the committee have endeavoured to adopt a nomenclature which should be conformable to the present language of science, divested of as much of its prolixity as could be done consistently with clearness and distinctness.

"In the American Pharmacopœia a single word is always used for the official name of the medicine, wherever such a word is expressive and free from ambiguity. For example, the name *jalapa* is used instead of *convolvulus jalapa* of the Ed. Pharmacopœia, and *jalapæ radix* of the London; *Colocynthis* instead of *Cucumis Colocynthis*, and *Colocynthis pulpa*, &c. The advantages of this mode are, that the word stands in the nominative case; that it expresses the medicine, and nothing else; that it is short and explicit, and does not require to be mutilated in practical use, as long names will inevitably be."

The committee further argue, that the words *Jalapa*, *Colocynthis*, *Ipecacuanha*, *Senna*, and others of the same kind, are not, strictly speaking, the names of any plants, but the names of drugs and medicines. The substance which in English we call *Jalap* is the root of a plant, the universally received scientific name of which is *Convolvulus Jalapa*. In strict accuracy, then, we must designate this drug by the circuitous name of *Convolvuli Jalapæ radix*, or by the simple name of *Jalapa*."

With regard to the manner of naming the compound bodies contained in this work, the committee have for the most part followed the example of the London college in placing the base of a compound at the beginning of the name, as, for example, *auri murias*, *potassæ subcarbonas*, *hydrargyri oxymurias*, &c.

We refrain with some regret from making observations upon the comparative merits of the phraseology of the London college, and of the beautiful nomenclature of the Edinburgh pharmacopœia, the last of which has been adopted in the work of the Massachusetts Medical Society; but as we have much to say on other subjects, we must proceed to them without delay.

"Pharmacopœias have most frequently been published in the Latin language. The Latin having long been the common language of scientific men, and the medium of technical phraseology, no well educated physician or apothecary is unacquainted with it. Its conciseness and precision have brought it into common use in the prescriptions of physicians, and the formulæ of medical writers. From the weight due to considerations of this sort, the publishing committee, while they have written out the entire work in English, have thought it proper to present not only the nomenclature, but all the essential parts of the work in Latin also. They have further felt justified in this measure by the belief that the book is thus rendered more intelligible to foreigners, and more useful in those districts of the United States, where the French and German languages continue to be spoken." *Preface.*

The American Pharmacopœia, like other works of the kind, is divided into three parts. 1. *Materia Medica*. 2. *Weights and Measures*. 3. *Preparations and Compositions*. We should

have said apparently divided, for there is no express division, which we regret, because it would not only be convenient to the reader, but likewise give a finish to the work. A table of contents has also been either accidentally or intentionally omitted. The articles, however, are arranged alphabetically, and the division and table might have been thought by the committee to be on that account superfluous.

Under the head of *Weights and Measures* it will be found that considerable alterations have been made by the committee. In the fluid measures they have followed the example of the London College, in making an arbitrary division of the wine gallon, for the sake of convenience and precision. The following is all that is inserted on this subject in the American Pharmacopœia.

“To express the quantity of solid bodies, we employ the kind of weight, which, in common language, is denominated *Troy Weight*, and divide the pound in the following manner.

The pound, ℔	}	CONTAINS	{ Twelve ounces, ʒ
The ounce			{ Eight drachms, ʒ
The drachm			{ Three scruples, ʒ
The scruple			{ Twenty grains, gr.

“We have added the signs by which the several weights are denoted.

“To express the quantity of liquids, we employ the measures which are derived from the wine gallon, and for medical purposes we divide it in the following manner.

The gallon, cong.	}	CONTAINS	{ Eight pints	○
The pint			{ Sixteen fluidounces, f ʒ	
The fluidounce			{ Eight fluidrachms, f ʒ	
The fluidrachm			{ Sixty minims	℥

“We have added the signs by which we denote the several measures.”

As an important change has thus for the first time been made in the fluid measures of this country, so far as they relate to the medical profession, it would have been useful to have given some explanation of the principles on which this change was founded, and the necessity of a more correct and uniform system than that which has hitherto been followed. In a note to the *Pharmacopœia Londinensis*, it is remarked, “that no error might arise from the indiscriminate use of the same terms to express both weights and measures, we have, after due consideration, devised certain new ones, which use will in a short time render easy. Moreover we measure the smaller divisions of liquids by a glass measure marked at equal distances; for the number of drops is a fallacious and uncertain mode of division, since com-

pared with those of water, almost double the number of drops of any tincture are required to fill the same measure." *Powell's Translation.*

It appears that the glass measures adopted by the college are those which were originally invented by Mr. Timothy Lane, in which the standard wine gallon of the exchequer is divided into 61,440 parts, now called minims, and which are applicable with accuracy to the mensuration of the smallest of these quantities. By an act of parliament, 14 Anne, the wine gallon is fixed at 231 cubic inches, and the weight of the standard exchequer gallon of water at a temperature of 63°, and barometrical pressure = 29.52 is 58,176 grains troy. *Powell.*

The following table is from the work just quoted.

<i>Pint.</i>	<i>Fluidounces.</i>	<i>Fluidrachms.</i>	<i>Minims.</i>
1	16	128	7680
	1	8	480
		1	60

It will be seen, then, that dry articles alone are to be designated by *weight*, while those which are liquid will be expressed by *measure*.

If the American Pharmacopœia be adopted throughout the United States, as no doubt it will be, these modes of indicating quantities must necessarily come into use, and that they will be continued after having been once introduced, we do not hesitate to affirm, because they are more definite and precise, and consequently safer than the old methods. In such case it will be necessary that the apothecaries be provided with the measures above mentioned. That such a change was required may be illustrated by the following observations of Mr. Powell. "The number of drops contained in one fluidrachm has been assumed to be sixty; and taking water as the standard, this number, though by no means accurate, would still be sufficiently correct for ordinary purposes; but when other liquids, of less specific gravity are used, a much larger number is required to fill the same measure, as of proof spirit 140 drops are required to equal the bulk of sixty of water, dropped from the same vessel. If, therefore, in the composition of medicines, measures suited to the standard of water were used occasionally only, and it was generally assumed that sixty drops were equal to one fluidrachm, and one fluidrachm of tincture of opium was substituted for sixty drops prescribed, twice the dose intended would be given. There are further objections to the use of drops, that their bulk is influenced by the quantity of liquid contained in the bottle from which they fall, by the thickness of the lip,

and even by inequalities in the different parts of the lip of the same bottle ; by the different degrees of consistency or tenacity in the liquids themselves, and by their volatility. These are sufficient causes for the changes introduced by the London College, and adopted into the American Pharmacopœia.

We shall now proceed to the preparations and compositions ; and before making any observations upon their correctness, we shall first state the cases in which the nomenclature of the National Pharmacopœia differs from that of the Massachusetts Pharmacopœia ; then advert to the difference in some of the formulæ of the two works, and give a list of the articles contained in the American Pharmacopœia which are not to be found in that of our own Medical Society. This subject is of considerable importance to the physicians and apothecaries not only of our own state but likewise of the other eastern states, because they are more or less familiar with the language and formulæ of the Massachusetts Pharmacopœia. No further apology, we trust, will be necessary to our readers for entering somewhat into detail in this part of our review.

The Massachusetts Pharmacopœia was published in the year 1808, and the committee who prepared it took for its basis the Edinburgh Pharmacopœia of 1805. The authors of the Scotch work adhered very strictly to the nomenclature of chemistry and natural history. The London Pharmacopœia was published in 1809, and its language varied very considerably from the language of that of its neighbours. The committee of the American Pharmacopœia, have for the most part adopted the phraseology of the London College, and hence it has happened that many of its terms differ from those of our own pharmacopœia ; and as the former^d will without doubt in future be considered both by our physicians and apothecaries, as the standard work by which they are to regulate their prescriptions, and the composition of their medicines, it is proper that the difference between the two should be distinctly pointed out. This we propose to do. The following list exhibits the terms respectively applied by the Massachusetts Pharmacopœia and the National Pharmacopœia, to the same articles and compositions.

Massachusetts Pharmacopœia.

Acidum acetosum.
Super-sulphas aluminæ et potassæ.
Melleæ vesicatorius.
Lytta vittata.
Croton eleutheria.
Citrus medica.
Pinus abies.
Oxidum plumbi album.
Oxidum arsenici.

American Pharmacopœia.

Acetum.
Alumen.
Cantharides.
Cantharides vittatæ.
Cascarilla.
Limon.
Pix abietis.
Plumbi subcarbonas.
Acidum arseniosum.

Massachusetts Pharmacopœia.

Gummi mimosæ niloticæ.
 Acidum acetosum destillatum.
 Æther sulphurici cum alcohole.
 Sup-sulph. alum et pot exsiccatum.
 Aqua acetitis ammoniæ.
 Oxidum antimonii cum phosp. calcis.
 Ox. antimonii cum sulphure per nitratem potassæ.
 Oxidum antimonii cum sulphure vitrificatum.
 Tartris antimonii.
 Aqua super carbonatis potassæ.
 Aqua citri aurantii.
 Rosæ damascenæ.
 Solutio muriatis barytæ.
 Oxidum bismuthi album.
 Solutio muriatis calcis.
 Emplastrum meloes vesicatorii.
 Unguentum ox. plumbi albi.
 Electuarium aromaticum.
 Conserva citri aurantii.
 Electuarium cassiæ fistulæ.
 Conserva rosarum.
 Electuarium cassiæ sennæ.
 Solutio sulphatis cupri compositum.
 Decoctum guaiaci compositum.
 Emplastrum oxidi ferri rubri.
 Semi-vitrei.
 Oxidum hydrargyri rubrum per acidum nitricum.
 Murias hydrargyri.
 Sub murias hydr. et ammoniæ.
 Oleum ammoniatum.
 Camphoratum.
 Emulsio ammoniaci.
 Amygdalæ communis.
 Camphorata.
 Acetis plumbi.
 Pulvis cinnamomi compositus.
 Syrupus citri aurantii.
 Toluifera Balsami.
 Tinctura opii camphorata.
 Meloe vesicatorii.
 fortior.
 Alcohol ammoniatum aromaticum.
 Acidum sulphuricum aromaticum.
 Tinctura toluifera balsami.
 Unguentum sub muriatis hydrargyri et ammoniæ.
 Unguentum Picis.
 Vinum tartritis antimonii.

American Pharmacopœia.

Acaciæ Gummi.
 Acetum destillatum.
 Sp. ætheris sulphurici.
 Alumen exsiccatum.
 Ammonia acetas liquidus.
 Pulvis antimonialis.
 Antimonii oxidum.
 Antimonii oxidum vitrificatum.
 Antimonii tartarizatum.
 Aqua Potassæ.
 Sodæ.
 Aqua aurantii corticis.
 Rosarum.
 Liquor barytæ muriatis.
 Bismuthi subnitratis.
 Liquor calcis muriatis.
 Ceratum cantharidum.
 Cer. plumbi sub carbonatis.
 Confectio aromatica.
 Aurantii corticis.
 Cassiæ.
 Rosæ.
 Sennæ.
 Cupri sulphatis liquor.
 Decoctum guaiaci.
 Emplastrum ferri.
 Plumbi.
 Hydrargyri nitrico-oxidum.
 Hydrargyri oxymurias.
 Hydr. sub. mur. ammoniatus.
 Linimentum ammoniæ.
 Camphoratum.
 Mistura ammoniaci.
 Amygdalæ.
 Camphoræ.
 Plumbi Acetas.
 Pulvis aromaticus.
 Syrupus aurant. corticis.
 Tolutani.
 Tinct. camphoræ opiata.
 Cantharidum.
 Capsici et Canth.
 Ammoniata aromatica.
 Acidi sulphurici.
 Tolutani.
 Ung. hydr. sub-mur. ammoniati.
 Unguentum Picis liquidi.
 Vinum antimonii tartarizati.

From this list it appears that a very considerable proportion of the names of the articles and their compounds, contained in the Massachusetts Pharmacopœia has been altered. Of the propriety of some of these alterations we shall speak more at large hereafter.

The following is a list of articles inserted in the *Materia Medica*, and among the compositions of the national pharmacopœia, which are not found in the pharmacopœia of the Massachusetts Medical Society.

Aurum.			succo limonum.
Cassia marilaridica.		Columbæ.	
Ceevisiæ fermentum.		Eupatorii.	
Dracontium fœtidum.		Lini.	
Eupatorium perfoliatum.		Quassia.	
Teucrifolium.		Cum sulphate sinci.	
Ferri prussias.		Serpentaria.	
Fraseria Walteri.		Spigeliæ.	
Geranium maculatum.		Tabaci.	
Gillenia trifoliata.		Ulmi.	
Heuchera cortusa.		Valerianæ.	
Phosphorus.		Liniamentum ammoniæ et ant. tartariz.	
Quercus tinctoria.		Aquæ calcis.	
Sabbatia angularis.		Cantharidum.	
Veratrum viride.		Saponis camphoratum.	
Wintera aromatica.		Tabaci.	
Xanthoriza apiifolia.		Terebinthina comp.	
Xanthoxylum fraxineum.		Mel despumatum.	
		Mel scillæ acetatum.	
Acetum opii.		compositum.	
Acetum purificatum.		Mistura ammoniaci et ant.	
Acidum carbonicum.		Ferri composita.	
Citricum.		Magnesia.	
Prussicum.		Zinci sulphatis.	
Oleum æthereum.		Oleum Chenopodii.	
Sp. ætheris sulph. compositus.		Gaultheræ.	
Liquor potassæ arseniatis.		Monardæ.	
Auri murias.		Origani.	
Bismuthi sub-nitras.		Sassafras.	
Ceratum arsenici.		Succini oxidatum.	
Cantharidum.		Filulæ aloes cum myrrha et guaiaca.	
Juniperi virginiani.		Antimonialis composita.	
Saponis.		Arsenici.	
Collyrium plumbi acetas.		Assæ fœtidæ.	
et opii.		Auri muriatis.	
Zinci acetatis.		Colocynth—ext. composita.	
		Ferri sulphatis.	
Confectio scammonia.		Comp.	
Cupri ammoniaretii liquor.		Gambogiæ et Scammonia.	
Cupri sub acetas præparatum.		Hydragryi oxymuriatis.	
Decoctum araliæ nudicaules.		Submuriatis.	
Lichenis.		Jalapæ compositæ.	
Emplastrum ammoniaci.		Myrrhæ et ferri.	
Extractum Quassia.		Picis.	
Colocynthidis comp.		Sodæ sub-carbonatis.	
Podophyllum.		Plumbi sub acetas liquidus.	
Sambuci.		Potassæ carbonas.	
Ferri acetas.		Pulvis aloes cum canella.	
Phosphas.		Pulvis ipecac. et cupri sulph.	
Liquor hydr. oxymurias.		Sodæ murias exsiccatus.	
Ferri alkalini.		Spongia usta.	
Infusum Angusturæ.		Pulvis stanni.	
Anthemidis.		Syrupus aceti.	
Armoraciæ.		Allii.	
Cascarillæ.		Colchici.	
Cinchonæ, cum aqua calcis.		Rhei.	
magnesia.		Aromaticus.	
		Cum seana.	

• Sarsaparilla.	• Veratri viridis.
• et guaiaci.	• Unguentum gallarum.
• Senegæ.	• Stramonii.
Tinctura Capsici.	• Sulph. comp.
• et cantharidum.	• Veratri viridis.
• Acetatis ferri.	Vinum colchici.
• Humuli.	• Veratri albi.
• Lobelia.	
• Mentha piper.	
• Viridis.	
• Quassia.	
• Sanguinaria.	
• Sennæ aromatica.	
• Valeriana.	
• ammoniata.	

We shall now point out the formulæ in the two pharmacopœias, which differ in the proportion of ingredients, and make a few observations upon the most important of them. These are the following—spiritus ætheris nitrosi, aqua ammoniæ, carbonas ammoniæ, ammoniæ hydrosulphuretum, pulvis antimonialis, antimonium tartarizatum, ceratum cantharidum, hydrargyri oxidum cinereum, mistura camphoræ, pillulæ assæ foetidæ composita, pilula hydrargyri, pilulæ opii, syrupus tolutani, tinctura camphora opiatâ, tinctura cantharidum, tinctura capsici et cantharidum, tinctura muriatis ferri, tinctura acidi sulphurici, unguentum sulphuris compositum, vinum antimonii tartarizatum.

The formulæ in the American pharmacopœia for the preparation of the *sp. ætheris nitrosi* is taken from that of the London College. The proportions are three ounces of nitric acid to two pints of alcohol. In the Massachusetts pharmacopœia one pound of nitrous acid is added to three pounds of alcohol; and here the proportion of acid is too large. The subsequent processes likewise differ. It is often the case we believe that apothecaries employ proof spirit instead of alcohol, partly in consequence of the danger of a violent action between the liquids, unless much caution be taken. The processes for preparing *aqua ammoniæ* in the American pharmacopœia, is superior to that in the Massachusetts, because there is less difficulty, and less danger to the vessels employed. The process for preparing *carbonate of ammonia* are essentially the same in both pharmacopœias, but in our own the weight of the chalk is one quarter greater, which leaves an excess, so that the ammonia will be saturated with carbonic acid, or to speak more correctly, the whole of the muriate will be decomposed. In preparing *hyro-sulphuret of ammonia* the American pharmacopœia has substituted with advantage sulphuret of antimony, instead of sulphuret of iron, as directed in the Massachusetts pharmacopœia. The process for preparing *James's powder*, *pulvis antimonialis* in the national work, is taken from the London pharmacopœia, and it prescribes two parts of hartshorn,

to one of sulphuret of antimony, instead of equal parts as heretofore directed. By this change the powder will contain nearly equal parts of phosphate of lime and oxide of antimony, besides a quantity of pure lime, derived from the carbonate and which probably acts as a flux.

The formulæ which differ most, are those which direct the preparation of the important chemical compound *tartar emetic*, the *tartris antimonii* of one pharmacopœia, and the *antimonium tartarizatum* of the other. The process of the American pharmacopœia consists in forming a sulphate of antimony by boiling to dryness two parts of sulphuric acid on one part of metallic antimony. The mass is well washed with water and dried, and there is added to it an equal weight of super-tartrate of potash previously dissolved in water. They are boiled in an iron vessel, the liquid is filtered and then set aside to crystallize. The evaporation, filtration, and crystallization may be repeated with the remaining liquid; but if the crystals be not perfectly clear, they must be again dissolved in water, and recrystallized. This method appears to be more definite, and certain to afford the tartar emetic of a determinate strength, than the older and more common process. But as it is a method altogether new, the directions ought perhaps to have been given more in detail. The questions will be asked by the apothecary, how long is the boiling to be continued? Is it simply necessary that the liquid should be heated to the boiling point, or must a definite portion of water be evaporated? From the directions below it is evident it was intended that a portion of the liquid should be driven off, before it was set aside to crystallize, but how far must the evaporation be carried? At present this part of the process can be learnt only by experiment. The chemical changes that take place we presume depend upon a double decomposition of the sulphate of antimony and super-tartrate of potash, sulphate of potash and tartrate of antimony will be formed, and the crystals, if this be the case, will exhibit an example of Berthollet's *sur-compounded salts*, or two salts uniting by affinity, and crystallizing together. We do not see by this process how a triple salt of tartaric acid, oxide of antimony, and potash, similar to the old tartar emetic can be formed. We have heard that this compound possesses all the activity which characterized that made by the old method, and we have no doubt that the committee fully satisfied themselves of this fact previous to giving it an admission into the pharmacopœia. It is a more definite and elegant method of forming tartar emetic than the other, and if the salt be permanent, we shall consider its introduction as an important addition to pharmacy.

Ceratum Cantharidum. This preparation differs from the *Emplastrum Meloes Vesicatorii* of the Massachusetts Pharmacopœia, in containing one third, instead of one quarter part of cantharides, and olive oil in the room of mutton suet. In the former work there is no plaster corresponding with the *Empl: Mel: Vesic: Comp.* of the latter. But it contains two preparations of cantharides, which are not to be found in our pharmacopœia, viz. *Emplastrum Resinosum Cantharidum*, which is composed of 1 part of cerate of cantharides, and 7 parts of Burgundy pitch; and *Linimentum Cantharidum*, which answers to a useful preparation very commonly employed here now, by the name of *Terebinthinate decoction of flies*. It is formed of 1 part of cantharides simmered for three hours in 8 parts of oil of turpentine, and afterwards strained.

Hydrargyri oxidum Cinereum. The process given for the preparation of this oxide is essentially that of Saunders, with the variation of boiling the calomel in lime water, in the proportion of 1 ounce of the former to 1 gallon of the latter. It gives a much more uniform result than the process of the Massachusetts Pharmacopœia, which consists in precipitating a nitric solution of mercury by carbonate of ammonia; by this method a portion of oxide, and a triple compound of nitric acid, ammonia, and oxide of mercury, are separated.

The *Mistura Camphoræ* of the American Pharmacopœia contains less camphor than that of our Medical Society.

In the preparation of the *blue pill*, *pilula hydrargyri*, the formula of the London College has been followed; at least so far as the ingredients are concerned. These are conserve of roses, and mercury, of each 1 ounce, liquorice powder, half an ounce, made into 480 pills, after due trituration. The Massachusetts Pharmacopœia directs the employment of starch, which renders the pills too hard.

The *pilulæ assa fetidæ compositæ* of the American Pharmacopœia contain equal parts of assafoetida, aloes, and soap: those of the Massachusetts Pharmacopœia, eight parts of assafoetida, galbanum and myrrh, and one part of oil of amber.

The *Squill Pill* contains powdered squill and soap; that of the Massachusetts Pharmacopœia, powdered squill, ammoniacum, cardamom seeds, and extract of liquorice.

The *Syrupus Tolutani* of the American Pharmacopœia contains only half as much tincture of tolu, as the *Syrupus Toluifera Balsami* of our Pharmacopœia.

There is some difference, likewise, in the strength of the *tincture of cantharides* of the two pharmacopœias. In the national, the flies are in the proportion of 3 drachms to 2 pints of

alcohol; in the Massachusetts Pharmacopœia the relation is 1 drachm of the former to 1 pound of the latter. There is no essential difference in the *strong* tinctures; that of the American Pharmacopœia is made with the addition of *red pepper*; the proportion of cantharides is the same in both. The *Tinctura Capsici et Cantharidum* answers, therefore, to the *Tinctura Meloes Vesicatorii fortior* of our pharmacopœia. The addition of the pepper will no doubt contribute to the activity of the tincture, but the principal advantage in the change of name will arise from the ease with which the two tinctures, the strong and the weak, may be distinguished, and from the certainty of their not being liable in prescription to be confounded, by the accidental omission of the term *fortior*.

The *Tinctura Muriatis Ferri* of the American Pharmacopœia is somewhat stronger than the analogous preparation in that of the Medical Society.

In the American Pharmacopœia we are directed in the preparation of the *Tinctura Acidi Sulphurici* to employ 3 ounces of sulphuric acid to 2 pints of alcohol; the proportion in the Massachusetts is 6 ounces of the former to 2 pounds of the latter. Hence the *Elixir Vitriol* of the first is only one half the strength of the last.

The *Unguentum Cantharidum* of the American Pharmacopœia and the *Unguentum Infusi Meloes Vesicatorii* of the Massachusetts Pharmacopœia are essentially the same. The *Sulphur ointments* of the two works differ very considerably from each other. The American Pharmacopœia has two formulæ, the Massachusetts but one formula. The *Unguentum Sulphuris* of the former is simply a mixture of hog's lard and sulphur; the *Ung. : Sulph. Compositum* contains sulphur, ammoniated sub-muriate of mercury, benzoic acid, oil of lemons, sulphuric acid, nitrate of potash, and lard. This, therefore, is an active preparation, and differs very materially from the *Unguentum Sulphuris* of our pharmacopœia, which, besides sulphur and lard, contains only oil of lemons or of lavender.

The last preparation which we shall notice is an important one, and in the new pharmacopœia it is considerably varied. It is the *Vinum Antimonii Tartarizatum*, the *Vinum Tartritis Antimonii* of our pharmacopœia. By the formula of the former every fluid ounce contains 4 grains; by that of the latter an ounce contains but 2 grains of tartar emetic. It must be recollected, therefore, that when the new pharmacopœia comes into operation, the *antimony wine* will be just doubled in strength.

We shall now proceed to make a few miscellaneous observations upon some subjects which attracted our attention in looking over the pharmacopœia.

It will be remarked that the committee have adopted the term *liquor* from the London Pharmacopœia in preference to *solutio*; thus we have liquor calcis muriatis, liquor barytæ muriatis, &c. The propriety of this change seems questionable, at least so far as convenience and habit are concerned. It might have been employed in consequence of its being the correct Latin word. In these names the committee have preserved the form which they announced in the preface, of placing in compound substances, the name of the base first; but the principle has not been carried through the work; for in the titles of the tinctures of metallic salts, the name of the acid is placed before that of the base, for example, tinctura acetatis ferri, and tinctura muriatis ferri; yet a little way beyond, we find unguentum cupri subacetatis, ung: hydr: oxidi: cin. &c. &c. Nor do we see any good reason why aqua potassæ should not have been designated by liquor potassæ; for this liquid being a solution of potash, it ought to have been included in the same class as the liquors. There is, however, a much more cogent reason for this change, and one, in fact, which is irresistible, viz. that the terms *Aqua Potassæ* are applied to two distinct liquids differing essentially in their activity. At page 82 this name is intended to apply to the super-carbonated, or the old aerated potash water, which contains 1 ounce of pearl ash, dissolved in a gallon of water; while at page 188 the same name indicates a strong solution of pure potash. A mistake in these liquids would be fatal; the danger may be avoided by calling the latter *liquor potassæ*.

Fowler's solution has the name of *liquor arseniatis potassæ*. This is wrong. It is not a compound of potash with arsenic, but with arsenious acid. It should have been *liquor arsenitis potassæ*.

The word *ammoniaret* should have been, in strict conformity with chemical nomenclature, *ammoniuret*.

There has been some difficulty, so far as regards the medical profession, in designating the two muriates of mercury. The terms muriate and sub-muriate are too nearly allied to prevent mistakes in all cases either in the prescription of a physician or the composition of an apothecary. We have known in one instance the mistake to have been made, of omitting the syllable *sub*, and though it was discovered in time to prevent mischief, yet it was sufficient to convince us that chemical precision ought to be sacrificed to the security of patients. It was rather gratifying, therefore, than otherwise, to find that the committee had adopted the phraseology of the London College, and designated calomel by the name of *sub-muriate* and corrosive sublimate by that of *oxy-muriate*. These terms, which we believe were first

proposed by the late Dr. Murray, of Edinburgh, are sufficiently distinct and expressive, and ought, therefore, to be adopted. No terms, founded on either of the two theories of the nature of muriatic acid, can be substituted for them; for if they be *muriates*, the proper terms should be *muriate* and *permuriate*; if *chlorides* they must be called *chloride* and *bichloride* of *mercury*; and these are open to the objections which have been urged against the employment of the words *muriate* and *submuriate*.

Among the formulæ for the composition of pills is one for those of *submuriate* of *mercury*, which directs the *calomel* to be made up with soap and a sufficient quantity of *water*. This does not appear to be right. The *soda* contained in the soap will decompose the *calomel* and form a substance which is comparatively inert, and which must, therefore, frequently disappoint the physician.

The terms *acetate* and *sub-acetate* of *lead*, chemically speaking, are incorrect. Dr. Bostock, some years ago, demonstrated that *Goulard's extract* was a solution of neutral *acetate*; and *sugar of lead*, a *bin-acetate* or *super-acetate* of *lead*. The former might have been correctly designated by the terms *liquor plumbi acetatis*, and the latter by *plumbi superacetatis* or *binacetatis*; and the distinction would have been sufficiently definite, as one is liquid, and the other solid.

The same observations are applicable to the two carbonates of *potash*. *Pearl ash* is a carbonate; the neutral carbonate, a *bi-carbonate*; at least so says Dr. Wollaston.

Berthollet's method of forming the neutral carbonate of *soda*, as directed in the *pharmacopœia*, is troublesome and expensive. His other method of preparing it, in a manner somewhat similar to that practised in regard to *bi-carbonate* of *potash*, appears to be preferable.

Soap cerate.—This preparation is unchemical, and the nature of the ingredients is altered by their chemical action upon each other. It is directed to boil one pound of *litharge* in a gallon of *vinegar* until the union be complete, then to add eight ounces of *Castile soap*, to boil again until the liquid is evaporated, and finally to add ten ounces of *yellow wax* previously melted in one pint of *olive oil*. It is obvious that the first operation is to produce *acetate* of *lead*, which must of course be decomposed by the soap, and the results will be *acetate* of *soda*, *sub-carbonate* or *oxide* of *lead*, or a mixture of both, and the oily or fatty substance of the soap itself; so that according to this formula the soap cerate will consist of a portion of *litharge*, (for the *acetic acid* contained in a gallon of *vinegar* is very far from being sufficient to saturate a pound of *litharge*) of *oxide* of *lead*, of *yellow wax*, *olive oil*, and *acetate* of *soda*.

Compound pills of sulphate of iron. These are composed of one drachm and a half of rhubarb, two scruples of sulphate of iron, and half a drachm of Castile soap, made into 40 pills, with the addition of water. In this case the soap must decompose a portion at least of the sulphate of iron, and the resulting mass will consist of sulphate of soda, oxide of iron being a mixture of the red and black oxides, oil or fat, and rhubarb.

The committee seem to have a strong regard for Castile soap as a medium of union in the formation of pills. We have already noticed the use of it in the pill of *sub-muriate of mercury*. It is likewise employed in the *compound pills of jalap*. The ingredients are jalap, rhubarb, Castile soap, each an ounce, sub-muriate of mercury six drachms and two scruples, and tartarized antimony twenty eight grains, made into 400 pills by the assistance of water. Now what must be the consequence of adding solution of soap to calomel and tartar emetic? There will be a decomposition, and we shall have muriate of soda, and tartrate of soda, or perhaps a tartrate of antimony and soda, oxide of mercury, perhaps some oxide of antimony, oil or fat, with the vegetable cathartics.

Some of the *tinctures* appear to us to be open to objections; for example, the first on the list, the *tincture of aloes*. It is ordered to be made with a liquid containing only one fifth part of alcohol. The proportion of water here directed to be previously mixed with the alcohol is much too large. Aloes requires a strong spirit for its solution; yet that which is directed in the pharmacopœia is weaker than Madeira wine. The same objection may be urged against the *tincture of myrrh*. In fact the composition of the cerates, the plasters, and the tinctures, constitute the lamest part of the pharmacopœia, and they will probably require some modifications before some of them can be prepared by the apothecary.

We have thus endeavoured to give our readers a fair and impartial review of this important work. None but those who have been engaged in the compilation of such a book, can form a just notion of the labour to be bestowed, and the judgment to be exercised, both in the collection and selection of materials; to choose between what is really useful and what only seems to be so, and to present in a small compass, articles all of which shall be valuable, and preparations which shall be at the same time efficient, correct and elegant. The Committee especially deserve great credit for the caution which they have manifested in the introduction of indigenous articles. This was the subject in which it was feared they might fail in giving satisfaction either by great additions or omissions. Their conduct in this

respect appears to us to have been highly judicious, and there is no fear that their pharmacopœia will ever be mistaken for an American herbal.

With regard to the mechanical execution of the work, we do not recollect to have observed more than one typographical error and that was of no importance. The book has a neat appearance, but as it will no doubt be often consulted by its owner, we should have been better pleased to have seen it printed on a firmer paper, and with a better type.

INTELLIGENCE.

Revue Médicale Historique et Philosophique ; par MM. V. Bally, Bellanger, F. Bérard, Bestieu, Bousquet, Delpech, Desportes, Double, Dunal, Esquirol, Gasc, Girandy, Jadioux, Laurent, Nicod, Prunelle, Rouzet.

1re Année (1820.)—1re Livraison. Janvier.

The Editors of the *Revue Médicale* propose to give a complete view of the most important medical works published in Germany, England, Italy, &c., and particularly in France,—to make a rapid comparison of such works as they may appear, with those already published on the same subjects ;—to publish the most remarkable facts which public and private practice may furnish ;—to connect these with similar or different facts which have been already noticed ; and to point out the practical consequences to which this parallel may lead, by dwelling on the circumstances of those observations which have led to a particular method of treatment, or have rendered certain an indication heretofore imperfectly established.

It was the original design of the Editors to publish their Journal Quarterly. They have since changed their plan, and a number now appears every two months. We have received the first six livraisons, or numbers, for the first year. In one respect this review differs from other similar works in England and this country. The names of the editors are not merely published, but the names of the individual reviewers are attached to their particular articles. The effect will be to render the writer more cautious, than if the responsibility were divided. There will be less inducement to introduce personalities, which are always offensive, and often very disgraceful ; and the chances are that the works selected will be of a character to do the most good, for the writer would hardly choose to connect his name with a review, the subject of which was of a very inferior and questionable stamp.

It is not the purpose of this article to offer an analysis of the different articles contained in the *Revue Médicale*, but to make short sketches of such papers or cases as may be useful.

In the second number the treatment of *croup* is glanced at. In a case in which 6 leeches were applied to the neck, the child came near dying from the hemorrhage which occurred after their removal. It occurred from three of the bites, and was at last checked. The next day the child was out of danger. Other cases of the same kind are referred to, and the value of *excessive* local bleedings, used

at the outset of the disease, very properly estimated. A treatment, consisting of the alternate use of very powerful emetics, and leeches, is spoken of as having been, in the hands of M. de Lens, highly successful. Dr. Krimer has reported cases of the utility of inspiring the vapour of the distilled water of the *Lauro-cerasus* in spasmodic affections of the lungs, and of the muscles of the chest. In two cases of whooping cough, the disease, which had resisted other means, yielded to this vapour.

Gastrotomy successfully performed.—A woman, aged 24, suffered oppression of the stomach and nausea. To excite vomiting she introduced a silver fork into the œsophagus. The fork escaped from her hand and fell into the stomach. Six months after the accident, having suffered from various symptoms, particularly vomiting, a tumour was noticed of the size of a pullet's egg, to which one extremity of the fork corresponded. Gastrotomy was judged the proper treatment, and was practised. The operation presented nothing particular. The prongs of the fork stuck in the substance of the stomach, and, to avoid injuring the part, required careful dissection for removal. The wound was dressed simply, and was healed in 20 days. Not the least uncomfortable symptom has been experienced since.

The next is a case by M. Chomel, of a *Periodical Cough*, converted by Belladonna into an hysterical affection, which last was successfully treated with cinchona.

In the third number we find a very severe case of *Tic Douloureux*, which was produced by a severe blow on the right side of the head. The frontal branch of the ophthalmic nerve was divided where it crosses the superciliary ridge. The pain was diminished, but recurred in two days, and occupied a different spot from that it first occupied. In place of beginning on the summit of the head, in the middle of the parietal bone, it proceeded from the forehead, and descended towards the point of the eye-brow, whence it glanced to the eye-lid and cheek. A second incision was now made, and all the soft parts were divided to the bone, from the root of the nose to the temple, passing over the superior eyelid. The pain ceased completely, and has not returned.

A fatal case of Cynanche Laryngea, with abscess in the cricoid cartilage, which occurred during convalescence from adynamic fever.—On dissection the following appearances were noticed. 1. All the parts surrounding the larynx were sound. 2. The membranous prolongations which extend from the epiglottis to the base of the arytenoid cartilages were considerably tumefied, white, soft to the touch, and infiltrated with serosity diffused through the cellular membrane. 3. The superior opening of the larynx not obliterated. It almost admitted the little finger. 4. At the inferior and posterior part of the cricoid cartilage, a small abscess filled with pus. The open state of the superior orifice of the larynx, is supposed to have

occurred after death. The examination was made 48 hours after dissolution.

Observations on certain catarrhal affections successfully treated with turpentine.—M. Avisard has already published the good effects of this article in chronic catarrh of the bladder. The cases in question were, one of chronic pulmonary catarrh, the two others chronic leucorrhœa. The first dose was half a dram, and it was increased by the addition of a scruple until it purged. This ordinarily happened when three or four drams were taken a day. The dose was then diminished. The good effects of this remedy are not produced until diarrhœa takes place, and soon after the disease entirely disappears.

The oil of turpentine has been found very serviceable according to this report in sciatica. The preparation recommended is two drams of the oil, to four ounces of honey, of which three spoonfuls are directed for a dose.

Pulv. piper Cubeba.—This is well spoken of as a remedy for gonorrhœa. It is only appropriate to recent cases, and the earlier it is used the better. M. Roche makes the following remarks on its medicinal preparation, "The manner of preparing the powder of cubeba is extremely simple. All that is necessary is to put it into some aqueous vehicle. The dose is a dram and a half, repeated three or four times a day. In small doses it is useless." Notwithstanding the good effects reported to have followed its use, and these are numerous and from respectable sources, Mr. R. adds, that in the only case he has employed it, instead of the anticipated relief, there followed the suppression of the discharge, symptoms of inflammation of the neck of the bladder, which, however, soon yielded to emollients. The effects of the cubeba are very prompt. Pain is at once relieved, and in the first discharge of urine after its use, the smell of the article is very evident. It frequently produces unpleasant sense of heat in the palm of the hands and soles of the feet; it often irritates the bowels and produces diarrhœa. These effects, however, are entirely alleviated by the addition of a small quantity of opium to the cubeba.

A notice is given of six cases, reported by M. Vaidy, of chronic inflammation of the organs of respiration in which moxa was very beneficially employed.

In the 8th volume of this journal, two cases are published of foreign substances sticking in the œsophagus, which were removed by vomiting, induced by injecting a solution of antimony into the veins. A case is given in the 3d number of the *Revue Médicale* from the *Quarterly Journal of Foreign Medicine and Surgery* for January, 1820, in which a similar practice succeeded under somewhat similar circumstances. A man swallowed a considerable piece of bone, which placed itself across, and became fixed in the œsophagus. Nothing could be swallowed, and no means used could re-

move it. The symptoms were highly alarming. Two grains (tartar emetic?) were dissolved in half an ounce of water, and injected into the median vein. In five minutes nausea occurred, and efforts to vomit, during which the portion of bone was suddenly rejected. In a few hours all the symptoms ceased.

General inflammation of the arteries.—This affection is rare, and a very striking case of it is here given by M. Barde. The subject was tall, of a sanguine temperament. His father had died of asthma at 32, and his mother was subject to frequent hemoptysis. At the age of 20 he left a sedentary employment and entered the army. His whole habits were now changed, and he suffered perpetual fatigue. He was attacked, in 1816, with cough, which threatened consumption, violent pain in the epigastrium attended, which soon extended round the loins; the heart beat with great violence; rigor followed by heat; severe headach; fever; pulse full, strong and frequent; pulsation of the superficial arteries visible; no external heat, extreme internal heat complained of; skin pale; an appetite for cooling food, and acid fruits. The above are among the symptoms which appeared in the course of the disease. Leeches were applied to the anus, and the diet regulated. Under this course the symptoms declined. The least exercise renewed them. The patient became slightly crooked in his figure, and kept his hand frequently applied to the epigastrium. This relieved the pain. Rubefacients were applied with some benefit, and a blister to the left arm. In 1818 the disease assumed a more alarming aspect. The patient could only rest in a semi-bent position. The pulsations of the arteries and heart were visible at some paces distant. Leeches were again employed as before, and to the epigastrium, and with some relief. The appetite very great. The first impression of food was grateful. The whole aspect of the patient became changed for the worse. Oct. 24th. A severe chill, followed by extreme heat and sense of suffocation. He was largely blooded. Venesection was twice repeated with benefit. In 18 days after, a similar attack, with similar treatment and relief. The patient was so well as to return to his occupation. But some journeys on foot at the beginning of 1819 brought on a return of the disease. Symptoms of effusion into the pleura and pericardium now came on, and then general anasarca. The visible pulsations of the arteries continued, and he died May 6th.

Dissection.—Water in the pleura, peritoneum and pericardium. Tubercles here and there in the lungs, in a state of suppuration. Heart large; its four cavities being dilated. Its membrane, brown; covered with a brown mucus; with deep red spots; adhering firmly to the muscular structure; destroyed in the places where the red spots existed. Valves, particularly of the right ventricle, filled with reddish mucus. Ascending aorta, carotid, and the branches which go to the face and brain, subclavians, brachial

artery and its divisions, even to the collateral arteries of the fingers, presented an internal tunic, which was thick, hard, of a deep red colour, and covered with a white purulent matter. Between the internal and fibrous tunic there existed a layer of serosity (serosité) of a citron colour and considerably dense. The pulmonary veins and arteries presented the same morbid changes. The abdominal aorta, and hypogastric and crural arteries were in a similar state. The marks of inflammation, however, diminished more and more as the examination proceeded through the inferior extremities. The veins of the chest had experienced the same changes. Their internal membrane and valves were thick, red, and torn with the slightest effort. This was the state of the mucous membrane in its whole extent from the fauces to the termination of the rectum. The liver was very much enlarged; the spleen, on the contrary, very small. The proper texture of the omentum had undergone changes not dissimilar from those exhibited by the mucus structures.

We have just received the April number of the Medical Intelligencer, and the May numbers of the London Medical and Physical Journal, and London Medical Repository. We make a few extracts.

Captain Browne has described a hitherto unknown worm which is found in the eyes of horses in India, under the name of *ascaris pellucidus*. The head is slightly subulate, with the extremity somewhat obtuse; body smooth, pellucid, of a bluish-white colour; thickest at the centre, and gradually tapering towards the head, and abruptly towards the tail, which terminates in a sharp point; its diameter not being more than one fourth of the head. Length, $1\frac{1}{4}$ inch. —*London Med. Intell.*

It is announced in the *Journal de Médecine Pratique* of Berlin, that the *Belladonna* is a preservative against scarlet fever. This fact was first noticed at Leipsic, but it has lately been confirmed by several experiments.—*ib.*

Dr. Jorg, a Prussian, has preserved mummies and anatomical preparations in perfection, for several years, with the empyreumatic oil from the distillation of wood, and with pyroligneous acid. Pieces of flesh already advanced in decay, smeared once with this preparation, soon become dry and sound.—*ib.*

That very active and sensible practitioner, Dr. Uwins, has the following edifying note respecting the powers of prussic acid: "Of the lately much lauded remedy in pulmonary and other irritations, the prussic acid, the reporter has not hitherto made sufficient trial to justify any decided opinion as to its merits. It is always with some measure of scepticism that he hears the announcement of these novel and potent remedies. From one or two of his friends, however, in whose skill and discernment he places every confidence, he has heard such favourable accounts of the medicine in question, that he purposes to embrace the first favourable opportunity that shall offer for putting its alleged virtues to the test of his own experience."—*ib.*

MASSACHUSETTS MEDICAL SOCIETY.

At the annual meeting of the society, holden June 6th, 1821, the following gentlemen were elected counsellors of the society for the several districts.

Suffolk—Drs. Townsend, Welsh, Dexter, Spooner, Bullard, Coffin, Dixwell, Jackson, Warren, Gorham, Randall, Parker, Shattuck and Bean.

Essex—Drs. Holyoke, Fisher, Oliver, Treadwell, Prescott, Gardner, Cleveland, Bradstreet and Hazeltine.

Middlesex—Drs. Hurd, Fiske, Bancroft, Thomas, Heywood, Wyman, Chaplin, Bucklin and Manning.

Worcester—Drs. Fiske, Haskell, Flint, Osgood, Batcheller, Jr. Green, Snow and Thurber.

Hampshire—Drs. Dwight, Smith, Hooker, Flint, Lathrop, A. F. Stone and S. W. Williams.

Berkshire—Drs. Burghardt, Burbank, Collins, Rogers and Child.

Norfolk—Drs. Holbrook, Bartlett, Richardson, Miller and Thaxter.

Plymouth—Drs. Thacher, Orr and Otis.

Bristol—Drs. Billings and Leonard.

An able and interesting discourse was delivered by Dr. Bradstreet, of Newburyport, on the subject of fever, and the virtues of lobelia inflata in various cases of this disorder.

The society appointed a committee to devise means for effecting a competent and regular education of apothecaries.

They passed a resolution for adopting the Pharmacopœia of the United States, as the standard of the society.

The committee appointed to consider in what relation those fellows of the society who resided in Maine at the time of the separation of that district from Massachusetts, should stand to the society, made a report, which was discussed.

The meeting of the counsellors was held, as usual, on the day succeeding that of the society's, when the following officers were elected.

Joshua Fisher, M. D. *President.*

Thomas Welsh, M. D., *Vice-President.*

John C. Warren, M. D., *Corresponding Secretary.*

John Dixwell, M. D., *Recording Secretary.*

John Gorham, M. D. *Treasurer.*

John Randall, M. D. *Librarian.*

James Jackson, M. D.

John G. Coffin, M. D.

John Dixwell, M. D.

John C. Warren, M. D.

James P. Chaplin, M. D.

} *Censors.*

John G. Coffin, M. D. was chosen to deliver the next annual discourse.

Among other proceedings of the counsellors at this meeting, the following are the most important.

A resolution was passed that after the eighth day of June, in the year 1822, no practitioner shall be elected a fellow of the society, unless he shall have been licensed by the society, or received and exhibited to the censors a license from some other society, agreeably to the bye-laws, or have received the degree of Doctor of Medicine at an university, or have been fifteen years in practice, and, in the latter case, not without special reasons in his favour. Further, it was determined, that counsellors in the several districts should be requested to prepare and present, at the next meeting of the counsellors, lists of all physicians, or persons so called, in their respective districts : particularly designating those whom they may consider proper candidates for admission to the society.

It was ordered that all publications of the society, of a pamphlet size, should be transmitted to the fellows by mail ; and that all others should be held under the direction of the librarian, and be delivered by him on every convenient opportunity or application.

It is expected a publication will be issued in a few weeks.

A committee was chosen and empowered to sell the society's township of Eastern land, provided it could be done on advantageous terms.

Committees of three members in each district were chosen to confer with apothecaries on the subject of the New Pharmacopœia of the United States ; for the purpose of ascertaining when they will be prepared to carry it into operation.

A donation of three hundred valuable medical works from Francis Vergnies, M. D., of Newburyport, being received, a vote of thanks to him was passed ; and measures were taken to perpetuate the recollection of so liberal a present.

An application from the Worcester district for a loan of the library, in successive portions, was committed and referred to the next meeting.

A communication was received from the Berkshire District Society, announcing their organization ; and from this and the other District Societies, containing lists of the officers elected for the year.

Massachusetts General Hospital.—The centre and eastern wing of this building are now finished, and the walls of the western wing are up. The superintendant is appointed, and a part of the furniture is already collected. We trust that not many days will elapse before the wards will be opened for the reception of patients.

It is probably known to the public that this hospital is designed for the reception of patients from all parts of the commonwealth.

Colonel T. H. Perkins, of this place, has recently received three skulls of Indians from the Columbia river. In two of these the effects of compression on the forehead practised by the tribes who

live on the western side of the rocky mountains, are strikingly displayed. In the third the cranium is of its natural shape. This last, and one of the flat heads, are in the possession of Dr. Channing of this place, the other is in the possession of Dr. Samuel Mitchell, of New-York.

PREPARING FOR THE PRESS.

A Treatise on the Natural History of the Human Teeth, and their diseases ; with a description of the modes of treatment, operations, &c., illustrated by a number of engravings. By Josiah F. Flagg, M. D., of Boston.

In preparing the above-mentioned work, the objects are—1st. To furnish a systematic treatise that shall contain every thing of importance which has been heretofore published on the subject, and which is now spread over the pages of a number of large, scarce, and costly volumes.—2d. To supply what is still wanting in our country, an elementary work for the student, and a text-book for the practitioner in the dental branch of surgery.—3d. To bring the whole into the compass of an octavo volume, which shall not be too expensive to be possessed by every practitioner who may be desirous of purchasing such a work.

Charles Ewer, Boston, will shortly publish a work, in one volume octavo, entitled, “A Sequel to the Pharmacopœia of the United States, being an account of the origin, qualities, and medical uses of the articles and compounds which constitute that work, with their modes of prescription and administration.” By Jacob Bigelow, M. D., author of the American Medical Botany, and one of the Publishing Committee of the Pharmacopœia.

OBITUARY.

Died at Boston, on the 20th of March, 1821, Dr. LEMUEL HAYWARD, aged 72, one of the oldest physicians of this place.

The life of Dr. Hayward, like that of other professional men, furnishes little that is eventful or interesting. He was born at Braintree, in this state, March 22, 1749, and was graduated at Cambridge, in 1768, with a good reputation as a scholar. He commenced the study of Medicine immediately after leaving College, and passed the greater part of his pupilage under the direction of Dr. Joseph Warren. At the close of his studies, by the advice of his preceptor, he settled at Jamaica Plains, where his practice soon became extensive and lucrative. In 1775 he was appointed a Hospital Surgeon by Congress, but upon the removal of the army to the southward he resigned his commission rather than relinquish his private practice. In 1783 he removed to this town, where his practice soon became respectable and continued increasing until the year 1798, when it had become extensive. The fever of that year however, induced him to purchase a place in the neighbourhood of the town, where he was in the habit of passing part of the summer months for the remainder of his life. This of course lessened the extent of his practice, but of this he was desirous, and he continued gradually to relinquish it during the remainder of his life. In the year 1776 he commenced the practice of Inoculation for the small pox, in connexion with the father of the present Dr. Rand, and af-

terwards continued it with Drs. Davies, Aspinwall, John Warren, and again with Dr. Rand.

Dr. Hayward was a corresponding member of the London Medical Society, a fellow and counsellor of the Massachusetts Med. Society, for several years chairman of the board of censors, and of the committee on the Boylston Prize Questions. But he was totally unambitious of professional renown. In the early part of his life he had thought and read much upon medical subjects, but nothing could induce him to overcome this reluctance to publish. In the latter part of life his attention was turned to subjects of a different kind and he was more interested in works of history, theology and fancy.—He was always in the habit of reading much, generally from four to eight hours every day.

Dr. Hayward had always taken a strong and decided interest in the subject of religion. He was an early and firm believer in the truths of Christianity, became a public professor at the age of nineteen and always continued to manifest a profound respect for its institutions. He was twice married—first, in 1776, to Miss Sarah Savage, daughter of Thomas Savage, Esq. of this town, who died within a few years after their marriage without children; and in 1785, to Miss Sarah Henshaw, of Middletown, Conn. by whom he had five sons and three daughters, all of whom survive him. Peculiarly fortunate in his domestic relations, Dr. H. was nowhere so happy as in the bosom of his own family—nowhere did his character appear to so great advantage. He was social, kind and hospitable; an affectionate husband, a most fond and indulgent father.

“Just at the closing of the Liverpool mail, brought by the Amity, accounts were received from Bremen, stating that Dr. Albers is no more! The death of this eminent and excellent man is a great loss to Europe and America. To the writer of this it is a truly afflictive dispensation. The memory of Albers, shall ever be cherished with affection, gratitude and veneration.”

The above notice of the death of Dr. Albers is taken from the New-York Evening Post, of May 12th, 1821. Dr. Albers was the most distinguished physician of Bremen. He had availed himself of the admirable means offered in Göttingen, Edinburgh, London, Paris and Vienna, for acquiring the fullest information on every department in his profession, and stored his mind at the same time with all that is valuable, in the wide range of physical science. His participation with Professor Jurine, in the prize awarded by Bonaparte, for the best dissertation on croup, added to his reputation, already so well established. He thus alludes to this circumstance in his preface to his edition of Heineken's translation of Professor Jurine's rival dissertation, “I consider among the greatest pleasures which my journey through Switzerland, last summer afforded me, the acquaintance I made with Professor Jurine, of Geneva, who is so distinguished a physician, surgeon and naturalist, that I may surely reckon it an honour to have *shared* with him the prize which the former Emperor Napoleon gave to our dissertations on croup.” We want nothing more than this to understand at once the whole character of Albers, and to agree with all who have known him intimately, that he was one of the most amiable, as well as one of the learned men of his time. The writer of this article however, has other motives for offering a tribute to one who has left so distinguished a name in Europe. It was his good fortune, through the kind offices of a distinguished friend and countryman lately in Europe, to establish a correspondence with Dr. Albers, which continued without interruption until his death.

The last letter he received from him was written just before that event. Through this correspondence, he received the earliest notice of interesting facts in regard to medicine, and some of the most useful works on the profession, which were appearing in Germany. A deeper motive however, is to be mentioned, which were sufficient in itself, for the best tribute that could be paid by any one at all interested in the character of his profession in this country; and that is the never failing interest and zeal with which Dr. Albers regarded every thing relating to the state of medicine in America.

This was not a temporary feeling with him, nor did it owe its origin to a mere curiosity about what was going on here. It led him to inquire earnestly into every thing concerning our medical science, and to procure every thing that was published here in relation to it. And farther than all, he minutely analyzed what he obtained, translated our medical literature into his native language, and published full views of it in his own country. We thus owe Dr. Albers a great debt of respect, and regard his early death as a loss to our country, as well as to his own. He claims a place among those who have done most for the literary character of America, for he has noticed one department of it with great respect, and laboured to extend correct views in relation to it abroad. Dr. Albers died after an illness of a few days in the 44th year of his age.

Died, JAMES GREGORY, M. D., Professor of the practice of Medicine in the University of Edinburgh, the 2d day of April, 1821, aged 68.

In Yorkshire, England, THOMAS BATEMAN, M. D., an eminent physician of London.

NOTICES TO CORRESPONDENTS, &c.

A communication from Dr. O. Prescott, on the effects of arsenic in a case of very extensive suppuration, has been received and will appear in the next number.

A case of Hydrocephalus, by J. Sherwood, M. D., will appear in our next. Also a paper containing an account of two instances of change of colour in the North American Indian, by Dr. E. Bissel, of Clinton, Oneida county, New-York.

Reviews are on hand of Dr. Nancrede's abridgment of Orfila, and of Dr. Granville's last work on the Hydrocyanic (Prussic) acid.

The first part of the eleventh volume of the *Medico-Chirurgical Transactions* has been received, and an analysis of it will be published in the next number.

A Review is in preparation of the following works on Midwifery, recently received :

Denman's Aphorisms, 7th edition.

Powers' New Principles of Midwifery.

Merriman on Difficult Parturition, 3d edition.

Granville's Report on Midwifery.

Laquet's Outlines of Midwifery.

Practical Observations in Midwifery ; with a selection of cases by John Ramsbotham, M. D., &c.

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An account of some of the agents, medicinal or mechanical, which have been applied externally, in the treatment of diseases; with notices of some of the writings which have been particularly devoted to this subject. By. W. CHANNING, M.D.

[Concluded from page 264.]

Compression, Friction and Percussion.

AMONG those of a later period, who have been most sanguine in recommending and employing external agents in the cure of diseases, Dr. William Balfour of Edinburgh holds a distinguished rank. His method differs from those already mentioned, and in the treatment of the diseases in which he employs it, he claims to have been a very useful discoverer. His method is perfectly simple; its effects are obvious and beneficial. He employs no medicinal substances on the skin, yet his method is equally successful with that of Chrestien and Ward. In its modifications by its author, it agrees with theirs in the most essential particular, and differs in wanting the medicinal articles to which they referred the principal agency in their cures.

In the eleventh volume of the Edinburgh Journal of Medicine and Surgery, Dr. Balfour published a paper on the pathology and cure of rheumatism, in which a method of treatment claimed as his own, is described, and the success which had attended it fully narrated. This method consists in the application of *bandages* around some parts in which rheumatism may be seated, the extremities for instance; and of *compresses* and *bandages*, when seated in other parts, to which bandages cannot be directly

applied, as the loins, &c. The treatment in this paper is principally confined to chronic rheumatism. Its effects in Dr. B.'s hands, were, immediate relief from pain in many cases; ability to walk without suffering, and a progress to recovery unusually rapid, though proportionate to the previous continuance of the disease, and the general or local effects it had produced.

This new method encountered much of the hostility and ridicule which a departure from the usual routine of treatment was obnoxious to. Other practitioners prescribed rest, and the disease was said to demand it, and as perfect freedom as possible from all pressure on the diseased parts. Dr. B. made compression take the principal place in his treatment, and encouraged the degree of exercise which this rendered tolerable. The pressure was managed according to circumstances. It was slight at first in those cases which would allow of but little pressure, and was continued only for a short time. It was at no time, however, applied with so much force as to interfere with the circulation, but in such a manner as to promote the healthy actions of vessels which had been previously disturbed. Dr. Balfour's method was the result of accident. Being himself the subject of rheumatism, in his shoulder, and being desirous to move his arm, a task to which, as he remarks, its own powers were unequal, he grasped it firmly with the other hand, about the middle of the pained muscles, and to his surprise, while thus held, he found he had regained the perfect use of the limb. The hint thus communicated led to the method of treatment of rheumatism very briefly detailed above.

He was not merely furnished by this accident with a new mode of treating rheumatism, but it supplied him also with a new pathology of this disease. At this period of the new method, it is not very important to inquire very particularly into this latter point. It is not improbable that the zeal with which it is discussed by Dr. B. has tended to divert men from the method itself. If this be really the case, it is to be regretted that he had not been contented with the simple statement of the facts with which his practice had furnished him, and indulged the fancies of his brethren in making such explanations of them as they pleased. Physicians, like other men, yield long established opinions with reluctance, and are not always ready to adopt new practical methods when they are brought forward in close alliance with unsettled speculation. Another circumstance may have tended to diminish the popularity of this method. This is the triumphant tone with which its author brings forward its success over all other known modes of cure. This is perpetually obtruded on the reader, and though it may be fully defended by the alleged success, it is certainly not the surest method by which to overcome prejudice, or

to solicit confidence. Dr. B. farther, in his ardour for his method, dwells more on its effects, than on the means by which it may be practised. His directions want that sort of minuteness and precision which is always desirable in such cases, not merely that others may employ them after the best manner, but because it attaches an useful consequence to the means themselves, especially were there is a great disproportion between the means and their effects.

Dr. Balfour's method is farther an exclusive one. This is perhaps its least valuable feature. It makes no provision for a vast variety of circumstances, which not unfrequently arise in diseases apparently the most simple and obvious in all their characters. Its effect, if extensive, will be to diminish confidence in other means, and to prevent their employment. Instead, therefore, of finding in them valuable auxiliaries, and the new method failing in consequence, it may at no very distant period find its place among plans which asserted an equal claim, and took as high a rank. The tendency of all exclusive methods, even of those in which a specific agency seems to be most remarkably displayed, is to produce carelessness in the investigation of a disease, and an indifference about its diagnosis, and thus to lead to an unprofitable and injurious empiricism. The treatment of venereal diseases, furnishes a complete illustration of the truth of this remark.

The new practice of Dr. Balfour, in rheumatism, has perhaps in some measure been retarded from appearing in public in pretty close company with other therapeutic novelties from the same source. I do not refer here to his management of cases in which parts accidentally severed from the body were united, but to his illustrations of the powers of emetic tartar in the prevention and cure of inflammatory diseases. An attempt was made towards superseding, by the use of this medicine, the prevailing practice, which, though in Dr. B.'s hands it is declared to have been successful, may have operated in some way to diminish confidence in his other equally successful innovations.

I have noticed the first paper of Dr. B. on cure of rheumatism. His principles and practice have been farther developed in subsequent papers; and the last communication on the subject I have seen, is his second edition of a work entitled, *Illustrations of the power of compression and percussion in the cure of rheumatism, gout, and debility of the extremities; and in promoting health and longevity.* The first part of this volume is an unaltered reprint of his paper in the *Edinburgh Journal* above mentioned. The new matter introduces the reader to the old method with modifications, and to something entirely new. Dr. Balfour

begun with compression by bandages and compresses; to this is now added *friction*, which he remarks, consists in successive acts of *compression* and *percussion*. This last was found so superior to either the new plan or its modification, as almost to have superseded the new method in the mind of its discoverer. The cases of cure by percussion, as detailed in this volume, are equally remarkable, and some of them even more so, for their severity, with those in the first paper. The treatment is also extended beyond the chronic form of the disease. It is shown to have been successful in preventing the acute form, and to have been perfectly curative in the acute form itself. The author has employed it successfully in bruises and severe contusions, in the lameness which is sometimes found to remain and constitute a very distressing affection, long after the immediate effects of these accidents have been removed; in gout, whitlow, &c. &c.

Friction, as employed by Dr. Balfour, is something more than the common process by which the skin only is stimulated. It is compounded of pressure and motion, over parts affected, principally by the fingers; and farther consists in grasping, pinching, and nibbling the parts diseased, however painful the process may be. We are directed where it is possible to compress between the fingers, individual fibres or parts of muscles, and in this way excite powerfully those actions on which cure is to depend. The author declares the effects of this, and of percussion to have been highly useful; and though in the first trials they may be painful, they soon become tolerable and even pleasurable. The volume consists principally of cases; the names of the patients are generally given, and some of them belong to the first ranks in society. The successful treatment of many of the cases is confirmed by the testimony of many highly respectable physicians who saw the patients.

In the first volume of the Transactions of the Association of Fellows and Licentiates of the King and Queen's College of Physicians in Ireland, a case is given in proof of the utility of Dr. Balfour's method of treating rheumatism. This case is communicated by Dr. Grattan. The disease was chronic; it had resisted all the means which had been employed under the direction of most eminent physicians, and the case at the end of twelve months of extreme suffering was declared to be hopeless. "Her feet," says Dr. G. "were both distorted, being permanently drawn inwards and downwards, so as to hide completely each inner angle, while the outer one was protruded considerably. The joints of the great toes were swelled and inflamed; the skin appearing smooth, polished, and of a bright red colour. The slightest touch produced the most exquisite pain;

and the pressure, even of the bed-clothes, was intolerable. The only position in which she could enjoy an interval of ease, was while she sat with her legs drawn up and supported by the upper and outer part of the feet. The pains she experienced were so severe, that she scarcely slept; and yet her appetite was good, and her general health in no respect impaired, with the exception of a slight numbness of the legs, arms, and fingers, indicating a tendency to paralysis." Under these circumstances the treatment of Dr. Balfour was tried. The feet were rolled in soft wool, in order to insure an uniform and equal pressure, and then bandaged. The bandages were worn only during the day; they were removed at bed time, and the feet bathed in salt water. In a week, a rapid and decided improvement was observed; "the pains were greatly relieved, the swellings of the feet had diminished, the feet had become more straight, and their skin had in a great measure resumed its natural colour. In short, by a perseverance, solely in the means that I have mentioned, Mrs. Clarke has been restored to the use of both her feet, and I am informed, is now able to attend to her domestic occupations with as much activity as at any former period." This case is very interesting. The author had no personal interest in the success of a remedy which he acknowledges to have learnt from another. It was used after the failure of all other means, and was strikingly successful.

I have frequently employed the method of Dr. B., and have successfully treated rheumatism by means of bandages. In two cases of very severe pain in the ankle and upper part of the foot, the effects of pressure were remarkable and immediate. The first was acute rheumatism. The patient could not leave his bed, or support for a moment the erect posture. The slightest touch gave great pain. A bandage was firmly applied from the toes over the diseased part, the ankle, up to the knee. The relief was so great and immediate, that the patient almost at once was able to support his weight, and recovered without any other remedy. The other case was constituted by sudden attacks of pain in the ankle joint, which soon became insupportable. The patient had recovered a few months before from a very severe attack of yellow fever, and ever since had been liable to seizures of excruciating pain in the ankle joint. Various means had been employed in one of these attacks before I saw this man, but without effect. It occurred to me, that firm pressure might be beneficial. I accordingly grasped the instep with my two hands, as if attempting the reduction of a luxation, and made as much pressure as I was capable of upon the seat of pain. The relief was sudden and perfect, and upon removing the pres-

sure I was gratified to find that the pain did not return. I have not heard of this man's having suffered a similar attack. From all that I have been able to collect on this subject, the treatment of rheumatism by *bandaging*, after Dr. Balfour's method, has been most tried of either of his plans; and notwithstanding his strong recommendation of friction and percussion, this method would seem to promise best in general practice, or in ordinary cases. It is simple, is readily understood and as readily used; and it has this further recommendation, that it has been tried and found useful by others.

Of Pressure and Friction in the treatment of external or surgical diseases.—The treatment of external diseases has principally consisted in the employment of external means. A more rational course has been recommended to the notice of the profession by Mr. Abernethy, in his work on the constitutional origin and treatment of local diseases. In looking back on the most important improvement in the *external* treatment of surgical diseases, our attention is first attracted by the successful and honourable labours of the late Mr. Baynton on this subject. These labours were directed to the better treatment of ulcers. This may be regarded as a humble toil, when considered along with the great and brilliant efforts of modern surgery; but if regarded in its connection with the good it has done, the method of Mr. Baynton forms one of the most important improvements of later surgery. This method consists in the application of adhesive straps to ulcers, in such a manner as to approximate their remote edges towards each other, and preserve them in the nearest *juxta* position. This method is thus essentially *compression*, and it acts by restoring tone, or giving healthy action to parts which have been long diseased, by diminishing local congestions; and, by preserving parts which have long been separated, in the same, and in the best relative situation with regard to each other, allows of the establishment and uninterrupted continuance of restorative processes. The means in this system of treatment are perfectly simple. It does not court notice by any elaborate and useless intricacy, but addresses itself to the common sense of the profession, and has been unparalleled for its success where it has been faithfully tried.

The treatment by *Pressure* has been extended to other diseases. This part of its history is interesting. It presents us with the successful use of compression in diseases remarkable for their painful, intractable, and fatal character. The affections referred to are those external diseases which are included under the very general terms, *schirrus* and *cancer*. They are spoken of here as *external*, not because it is believed that they are

merely local diseases, in the origin and progress of which, the constitution takes no part, but because some of their earliest manifestations are made in organs which are comparatively external, and the diseases of which are in a very early stage cognizable by the senses.

The treatment of these diseases by Pressure, was suggested and has been extensively practiced by Mr. Samuel Young, Surgeon, England. In 1805, he published a work under the title of "An Inquiry into the nature and action of cancer, in order to establish a principle of cure by natural separation." From the limited application of this principle in diseases so grave as those for whose cure it was to be brought into operation, the idea of mechanical pressure suggested itself; and as early as 1809, two cases had been successfully treated by this method. The first work of Mr. Young on this subject I have met with, was published in 1816. It is the second edition of the "Minutes of Cases of Cancer and of Cancerous tendency successfully treated by Mr. S. Young, Surgeon, &c." I shall give a short sketch of the mode of employing pressure; its mode of action; its effects; and its reception by the profession. The author with others had observed the effects of tumours, or diseased masses, on healthy structures in their neighbourhood; and it was with a view to produce similar results on diseased parts themselves by compression, that his method was adopted. Absorption was the effect in the one case, and he looked for the same in the other. The results of his various experiments have to his mind confirmed his expectations. The means employed are plaister-straps, sheet lead forming shields of various thicknesses, tin plates, linen compresses, and appropriate rollers. The best composition for the plaister-straps has been found in equal parts of the common strengthening and soap-plasters mixed and spread somewhat thickly, on linen. The plaister should be perfectly smooth, and all wrinkles should be avoided. The mode of applying pressure to schirrous and cancerous tumours, constitutes the most delicate and important part of the treatment. The objects in its use are *specific* and *general* pressure; the last will be gained under almost any mode of application. It is to the former, however, we must look for benefit; and unless this be steadily and uniformly obtained, the treatment will be useless and injurious. The metallic plates or shields, with the compresses, are the principal means of *specific* compression. These may be applied over particular points which are the most projecting, hardest, and of longest continuance, while compresses placed upon other parts will ensure an uniform compression. In beginning the treatment, the plaister-straps are only to be used, either in single or

double layers, according to the effects on the patient. The pressure must of course, in the first instance, be slight; and it must be afterwards controlled by circumstances. The degree of force which may ultimately become necessary and supportable is prodigious, according to the representations of the author. The removal and reapplication of the roller, or straps, or both, will depend on their becoming loose. They will in this case irritate the part, and the patient will experience a return of those sensations in the tumour which were present before the treatment was begun. Ulceration, or tender state of the skin, is no objection to compression. If such a state exists, it is recommended to dust the part thoroughly with powdered chalk, hair powder, &c. Irritable points and parts should be defended by gold-beaters skin. Generally speaking, the application of pressure has been found to relieve pain, and that in the most exquisite and actively painful states of cancerous affections.

The effects of the treatment of Mr. Young will best appear from the following list of cases in which it has been tried.

From the "Minutes of Cases."

Names.	Seat of disease.	Event of cases.
Anne Wildman,	Breast, - - - - -	Died.
Mrs. Wood,	Breast, - - - - -	Died.
Elis. Bar,	Breast, relieved, but treatment discontinued on account of pregnancy.	
Elis. Thomas,	Breast, - - - - -	Died.
William Lea,	Lip, - - - - -	Cured.
Frances Day,	Breast, - - - - -	Relieved.
Mrs. Brown,	Breast, - - - - -	Cured.
Mrs. Jennings,	Both Breasts, - - - - -	Cured.

London Medical and Physical Journal, No. 260. Oct. 1820.
 Alexander Johnston, Upper part of Face, - - Cured.

No. 261. Nov. 1820.
 Mrs. B. Breast, - - - - - Relieved.
 Mrs. M. Breast, - - - - - Cured.
 Sarah Yeatman, Breast, - - - - - Cured.

No. 263. Jan. 1821.
 Mrs. — Angle of the jaw under right ear, Cured.

No. 264. Feb. 1821.
 Lydia Elms, Breast, - - - - - Relieved.
 Ann Whitnell, Breast, - - - - - Relieved.
 Richard Fiest, Between eye and nose, - Cured.

The above are all the cases I have had an opportunity of examining.

In these cases, the diseased condition of the parts concerned is asserted to have been striking for its violence; for the length of time it had existed; the obstinacy with which it resisted previous means of treatment, and for the great constitutional disturbance it had excited. The parts which are commonly found diseased along with chronic disease of the breast, the axillary glands, were diseased in these cases. Extirpation, and puncture, from a belief of a contained fluid in the tumours, had been practised in some of these instances, but both with perfect failure of cure. Physicians and surgeons of the first respectability, we are told, had seen many of them; and from their known character of malignancy, had regarded them as incurable. In the three first fatal case, there were circumstances present, which were calculated to prevent the salutary tendencies of any treatment. Two of them were paupers, and intemperate; and the third exhibited symptoms of universal disturbance of function. But, even in these, great amelioration was experienced from compression, and life rendered comfortable while it lasted.

Mr. Young's method does not preclude the use of other means. It is in no degree an exclusive system; but in his hands is aided by the internal use of powerful remedies. Among these may be enumerated, Fowler's solution, digitalis, various preparations of mercury, opium, hyosciamus, &c. He pays the strictest attention to the state of the stomach and bowels, and to the diet of his patients.

The reception of this method by the profession may be readily anticipated. Here was a great departure from the established practice, and here was much success, where before there had been general failure. The mode under which this method was brought forward was peculiar, and perhaps had its influence over its reception. It appears that the late Mr. Whitebread, the distinguished member of parliament, was the earliest witness of its use and success; and in its successful progress became its public patron. Mr. Young, in the first place, addressed a letter to Mr. Whitebread on the treatment of cancer. This led to a correspondence, and ultimately to a request that Mr. Young would come into Bedfordshire to attend on a near relation of Mr. W., afflicted with a disease called cancerous; and to apply his method, provided it should meet the approbation of a distinguished physician in attendance, and in whom Mr. W. had the greatest confidence. Patronage did not stop here; Mr. Whitebread addressed a letter to the Governors of the Middlesex Hospital, in which a cancer ward had been established, setting forth

in the strongest terms the success of the new method, and recommending the author to the place of surgeon to this ward.

Whatever may have been the causes, the method of Mr. Young has encountered and still meets great hostility. It is perfectly natural, that he should feel this; but it is unfortunate that he should be so frequently drawn from the great purposes he has in view in his method, to repel the attacks of malevolence, or to meet what the incredulous may urge against it. If such men as Armstrong, Guthrie, Pearson, Brodie, and Haden, distinctly referred to by Mr. Young, have seen these cases during their treatment, they are competent witnesses; and if they have not condemned the plan, the author need not be dissatisfied.

How far the method of Mr. Young has been tried in this country, I am unable to say. I know but of three cases of diseased breast in which the method of Mr. Young has been tried here. These occurred in the practice of the same physician. The first case was fatal. The situation of the patient, when compression was begun, was desperate; no hope could be entertained of recovery. In the second case, extirpation of the breast had been practised for disease of that organ. Some time after its removal, hardness and tumour took place in the integuments, accompanied with excruciating pain. This state of things continued some time, when compression was resorted to. The immediate effect was relief of pain. This was very striking. The tumour gradually and entirely disappeared under the use of pressure. This patient died some time after of fever. In the third case, a small, painful tumour, in the neighbourhood of the nipple, which had continued many months, was relieved by pressure. These cases were communicated to the writer, by the respectable practitioner who attended upon them.

Compression has been used in many other chronic affections, besides those now mentioned, and under various forms of application. In the 1st number of the first volume of the Philadelphia Journal of the medical and physical sciences, Dr. Calhoun relates some cases, illustrative of the use of the tournequet in palsy. This seems to be a modification of the method of Dr. Balfour, or to produce its effects after a manner very similar to his. In the seventh volume of the Edinburgh Medical and Surgical Journal, the use of pressure by the natives of Egypt is mentioned. They employ it as a preventive of ophthalmia, and the method consists in the application of bandages firmly over the eyes during sleep. I have somewhere met with an account of the beneficial effects of pressure upon the eyes in some states of Ophthalmia, or in the cure of this disease. It was employed by Fabricius Ab Aquapendente in fistula lachryma-

lis. His practice in this respect, however, has passed into neglect. In a letter from Dr. Dickson to Dr. Duncan, in the 65th number of the Edinburgh Journal, 16th volume, the good effects are stated of compression by straps spread with diachylon plaster without resin in a case of mortification of the lower extremity. Mr. Baynton applied them in this case of Dr. Dickson's. He surrounded the foot, from the toes to about three inches above the limits of the disease, making the pressure very moderate at first, and increasing it gradually on each application. The state of this patient's system was such, as to encourage very little hope of recovery, and he sunk at the return of hot weather, under the recurrence of gangrene in both extremities. Under the use of compression, however, the progress of the disease was arrested,—the separation of the dead from the living parts was promoted,—the discharge diminished, and the constitutional symptoms abated,—finally, cicatrization to a considerable extent was effected. The sources from which the facts in this case are derived, are so highly respectable, that they deserve the fullest confidence of practitioners.

In the 66th number of the Edinburgh Medical and Surgical Journal for January, 1821, a case of ruptured Tendo-Achillis is reported by A. Edmonston, M. D., in which compression seems to have been employed with great benefit. The writer was the subject of the accident. The rupture took place at the lower part of the calf, a little above the point where the fibres of the gastrocnemii muscles begin to unite to form the tendo-achilles. The spot was red, and depressed. After having tried the method of Monro without benefit, he treated himself by surrounding the leg with adhesive straps, which were used for the space of seven weeks, with complete success, changing them at the end of every eight days.

Friction has been recently recommended in the treatment of cutaneous diseases.* The following extract from Dr. Morison's paper noted below, will explain the principle upon which he has acted, and the practice he has pursued. "The principle upon which I have acted is, that cutaneous eruptions are composed of an infinite number of minute *ulcers*, which, of course, fail to be treated as such, according to the ordinary rules of surgery. From this view it will follow, that all siccant remedies, in whatever shape, are inadmissible, and that the erup-

* Edinburgh Medical and Surgical Journal, No. LXV. p. 525. Observations on the cure of cutaneous diseases by Friction. By Thomas Morison, M. D.

tions must be kept open and clean, till the cure is completed. This purpose has been effected by friction, and by, as far as possible, secluding atmospheric air. The means I have adopted are these: I dip a sponge in lukewarm water, and after squeezing it hard, so that only dampness remains, I cover it with oatmeal. With this the parts are rubbed for some length of time, the sponge being frequently dipt in the oatmeal, and this operation is repeated two or three times a day, according to the urgency of itching or other symptoms. After being sufficiently rubbed, the parts are washed and gently dried. Oil is then applied, by means of a varnish-brush, and the parts covered up with slips of linen. I give the preference to oil made from cow-heel, on account of its tenacity, and because it can be constantly and easily procured in a fresh state. During the friction, should a little blood ooze out, the appearance need create no uneasiness, and the consequences are rather favorable than otherwise." The cases in which this treatment was tried, and with very marked success, were, three cases of Psoriasis inveterata, of a very severe character,—two cases of pimples on the face, of many years standing, and one of foul ulcers. Dr. Morison thinks it might be very beneficial in small pox, when the pustles show signs of suppuration. "In the common itch, I have had no opportunity of trying the plan, but of its efficacy I do not entertain a doubt. Indeed in all cutaneous diseases, where scurf or scales are formed, even in lepra, the plan, if well conducted, will be useful, particularly if early attention is paid." It is very probable that the cure in these cases, was principally effected by *friction*, for various other means, both external and internal, had previously been found of no avail. A part of the cure, however, legitimately belongs to the internal medicines used along with the friction. "In the cases to which I have referred, little recourse was had to internal medicines. I only recommended that a pill, composed of one grain of the pilul. hydrarg., and two grains of the pilul. colocynth., should be taken every night for ten or twelve, and then every second night during the cure, followed in the morning by magnesia, or such a quantity of Epsom salts as should keep the first passages in a clear state. The regimen I recommend is light animal food, with plain boiled rice, light boiled eggs. I forbid malt liquor, vegetables, and fruit, and salted meat, but allow a couple of glasses of wine in 24 hours. I recommend sponging the body with tepid water; and rubbing it hard with a coarse cloth in preference to bathing."

Dr. Morison has thus in a very few words, and perhaps without desiguing to give it too much importance in the treat-

ment of severe and chronic cutaneous diseases, distinctly given a system of practice, in all important respects, admirably calculated for a wide range of chronic affections. It approximates most nearly to the method of a distinguished English physician, before-mentioned in this paper, who found a similar treatment perfectly curative in many local diseases of constitutional origin, though unaided by friction. These remarks are not made to detract from the effects of friction as noticed by Dr. M. They seemed necessary, however, on account of the slight notice taken of the other means employed, and in order to give these means their true place in the treatment of cutaneous diseases by friction.

Before leaving this subject, I cannot omit referring to a work which has been well received by the profession. This is "An Enquiry illustrating the nature of tuberculated accretions of serous membranes, &c. By John Baron, M. D." Among other means in the treatment, and particularly in the prevention of these diseases, *friction* holds a distinguished rank. Its effects are happily illustrated by the author; and his illustrations are conclusive in favour of the employment of this powerful agent; and show very strikingly the intimate connection which subsists, in other orders of organized beings, as well as man, between external and internal organs in disease and in health.

In the external treatment of disease, another and quite a different class of means remains to be mentioned. This class includes all those agents which act sensibly, and with various degrees of power upon the parts to which they are applied. Fire is one of these. An interesting paper on its medicinal uses by Prof. Maunoir was published in the last number of this journal. Moxa is another. This differs from the actual cautery, principally in its degree of immediate effect, and is applied to a different order of cases; in those, viz. which are constituted by deep-seated, rather than by more superficial, or merely cutaneous diseases, and in which much good is looked for from impressions of a peculiar character made on the surface. The employment of these means has been almost entirely confined to the continent of Europe. Plaster of cantharides belongs to this class. The tartrate of antimony has within a few years acquired some reputation amongst us as an external agent in the cure of internal diseases. It is combined with lard, and applied as a plaster, or rubbed upon the surface over diseased parts. I have used it in this way, in affections of the chest, and in diseased knee-joint. Its effects are an eruption of an extremely painful kind, which soon becomes covered with hard black scabs; at first these are surrounded with a good deal of inflammation. This goes off, and

the part remains covered more or less thickly with crusts. These are very irritable, and very slowly removed. The discharge is rather a bloody ichor than true pus, and is, in comparison with the discharge of common blisters, small in quantity. I have met with a case, where the most powerful local means were demanded, and in which this article was applied, mixed with Savin ointment; a black and almost dry slough occupied the whole spot to which the ointment was applied. From my own experience with this remedy, which is not very extensive, I feel by no means satisfied that it should supersede the use of plaster of cantharides. It has been so extremely troublesome to the patient, so much local and general irritation has been produced where I have employed it, that it became necessary to lay it aside. In diseases of the knee, and hip-joint, and even of the chest, which are long and in themselves frequently very painful, it is a subject for no small consideration on the part of the physician, by what means relief may be obtained with the least sacrifice of personal comfort to the patient. Perpetual blisters, or caustics, in their appropriate cases, have seemed to answer these purposes after the best manner. It is not, however, because the ointment of tartar emetic renders the situation of the patient less comfortable, merely, that I have abstained from its use, but because I have been by no means satisfied of its superior usefulness. Irritation is not all we wish to produce by these external means. A powerful action of the structures to which they are applied is one object in view, and the best evidence we can have of the existence of such action is to be found in the full and free discharge of purulent matter, which this action produces. This goes on without disturbing other functions; and it is under this action we frequently find disease disappear. The writer is to be understood as speaking here entirely from his own observations of the effects of the antimony plaster. His cases may constitute the exceptions to a more general rule. He has merely stated what he has seen.

To this class of agents, nitric acid has been lately added, and recommended as a substitute for blisters. Mr. Assistant Surgeon Powell, of the Bombay detachment, appears to have been the first to have thus employed it. He used it in the spasmodic cholera of India, a disease remarkable for its rapid and fatal progress, and with great success. It took the place of blisters, because their operation was too slow in a disease, the successful treatment of which depended on the production of an almost instantaneous counter-irritation. Of forty-one cases treated by Mr. P. in this way, only six died; and of nine treated by an offi-

cer commanding a detachment without medical aid, only one died, a woman 6 or 8 month gone with child. Mr. Powell uses 2 parts of acid to 1 of water. This is rubbed over such an extent of surface as is thought necessary; as soon as pain occurs, he neutralizes the acid, by washing the surface with a solution of salt of tartar. The cuticle is now easily removed, and leaves the cutis raw, upon which he applies a blister to keep up the irritation. The rest of his treatment in the cholera of India consisted in small doses of camphor and opium, and small enemata. Mr. Killet, Surgeon at Madras, confirms the account of Mr. Powell, and has extended the use of the acid blister. He has used it in severe disorder of the stomach and bowels consequent on excessive drinking, where promptitude is of vital importance, and where common blisters are altogether useless and unapplicable; in acute and sudden pain from other causes; in hepatitis, &c. "Wherever" he remarks, "the disease depends on spasm, or nervous irritation, the relief is *wonderfully sudden*; and when it is connected with inflammation, I think it is fully as certain, and more speedy than common blisters." As to the degree of pain, this differs in different individuals. By some it is said to be sharper than that produced by blisters, by others not. "It reaches its acme in 2 minutes, continues severe for three hours, and in three more altogether ceases."

On the score of convenience the acid blister is much extolled. Mr. K. has seen no occasion for the after use of Cantharides. If used diluted with an equal part of water, the effects are a good deal like those of a common blister, only more slowly produced. "As no serous discharge ensues, the acid cannot be substituted for blisters in cases where this discharge is the motive of their application; neither, of course, can it be admissible when a continued rather than intense counter-irritation is thought to be indicated. But in all urgent and acute cases, and especially where the patient is unruly or restless, the acid appears to me to possess advantages sufficient to recommend its general adoption in practice."*

The nitric acid blister has been recently employed in England in consequence of Mr. Killet's communication.† A case is published in the journal quoted below, of severe gastrodynia, in which after the failure of all the other means employed, the application of the acid over the epigastrium, produced instant and permanent relief. Mr. Hull applied the remedy by brushing it

* See Observations on the use of nitrous acid as a substitute for blisters, by Mr. Killet, Surgeon, &c. Madras.—*Edinburgh Medical and Surgical Journal*, No. 65, Oct. 1820.

† See in the London Medical Repository, No. 84, December, 1820, a paper on the external application of Nitric Acid, by Robert Hull, Surgeon, Norwich.

with a feather over the seat of pain, and immediately after, applied cold water to dilute, and to wash it off. The patient cried out at first "you are burning me," and almost in the same breath, "I am in heaven." The next was a case of metastasis of rheumatism to the brain. In this case the acid was not diluted after its application. It was applied to the back of the right foot,—over the inner surface of the left fore-arm,—and to the right fore-arm. What agency the acid exerted in the recovery which very gradually followed, the author does not undertake to decide. It should not be omitted however, that under the mode of use mentioned in the first case, no serious local effects followed the acid blister, whereas a most troublesome, and protracted ulceration followed the practice in the last.—Mr. Hull speaks of phrenitis, *croup*, gastritis, enteritis, metastatic rheumatism, metastatic gout, among the phlegmasiæ; and of all painful affections, unaccompanied by pyrexia, (the *dolorosi*) as adapted to the use of the instantaneous counter-irritation which the acid blister produces.

The external use of nitric acid promises to be useful. It will supercede the employment of means akin to it in their effects, which have been reserved for very extreme cases; such for instance, as boiling water, the good effects of which were manifested in some cases in which Dr. Rush and others have employed it, and where an instantaneous counter-irritation was demanded. It is more manageable than boiling water, and its effects are sufficiently prompt for the purposes for which that might be necessary. It is of more extensive application, or may be beneficially used where the other would hardly come under contemplation. It requires caution, and judgment in its use. It should not supercede the use of common blisters where a permanent irritation is required, hence, its application should be such, as to limit its effects to the first impression; and for this object the method of Messrs. Powell and Killet is the best, in the present state of our knowledge of its effects when externally applied.

This article has already far exceeded the ordinary limits of our miscellany, and much that remains to be noticed must be deferred. Many individual articles under the classes already considered are necessarily omitted, and a very important subject has not been even alluded to. I refer here particularly to *bathing*, which has been employed after so many different methods, with so many different objects, and under such variety of circumstance, both of health and disease. Medicated baths, or baths which are vehicles of various medicinal articles;—cold and warm bathing;—the external use of mineral waters of which there are so many, and which are so various in their properties

and effects; all these, and many other agents which operate in some measure like them, constitute an interesting department of external medicine, and deserve a particular notice, in an inquiry whose principal object it is, to show what has been done in this branch of the profession.

It is not an useless labour, which collects into one view what is scattered over a wide surface, and which at any one moment, can be but imperfectly seen. In a case like the present, where both precepts and practice appertain to the individual rather than to the multitude; where doctrines, both theoretical and practical have not been extensively adopted and tried, it is not easy to separate the real from the imaginary, or to point out how much belongs to prejudice, and how much to just observation. In the majority of cases, the test of medical truth may be found in the successful and general adoption of particular methods, and yet it will not be universally true, that a method is a bad one because the utmost extent of its employment finds its limits in the individual practice of its author. In by far the greater number of cases, the new method is discovered to be no better than the old. This it is believed is the true explanation of the neglect into which the *methode iatrateiptique* along with many kindred novelties has passed, and there seems to be no very good reason for attempting its revival. This method is however associated with an agent of great power in the treatment of many diseases. This is FRICTION, variously modified. The facts in this paper illustrate the unquestionable value of this agent. It should never be neglected in the management of appropriate diseases; and the whole secret of its use is, to govern ourselves in its application, by the same principles as govern us in the use of all other means. While friction is not to supersede the use of other exercise, it is not to be superseded by that. They are to be regarded as modifications of the same means, and are both alike necessary in suitable cases.

A description of the Lytta Atrata, or a new discovered species of Blister Fly.

[To the Editors of the New-England Medical Journal.]

GENTLEMEN,

IF the following communication should be thought worthy of an insertion in your valuable periodical work you will give it a place.

From your humble servant,

GEORGE OSGOOD.

It is to be regretted that the study of Entomology has been so much neglected in this country, notwithstanding it has been cultivated with so much ardour in Europe. In what does the wonderful power and various contrivance of the Great Creator more strikingly become manifest, than in the formation of this numerous family of nature's works? What can surpass the richness and splendour of the colours of some of the butterfly and moth families? or of the coleopterous insects; such as the curculios, scarabaei, cicendelas, and buprestes. The study of the habits, characters and mode of life of this kingdom of natural subjects, has often been considered by the philosopher as beneath the dignity of his character to investigate. But surely what required the effort of infinite wisdom to create, cannot be above the attention of his creatures. The advantages that result from the study of insects are not confined to the gratification of curiosity, or as affording amusement; but immense wealth has been acquired by the collection and vending of one species of coccus, which affords rich and rare colour, the cochineal. The physician is not ignorant of the important uses in his profession that are derived from the meloe vesicatoria of Europe, and the *Lytta vittata* or potatoe fly of our own country. The object of this communication is to make known another species, equally powerful with the Spanish fly.

Before proceeding to give the history of this insect, I would observe, that Dr. John Gorham of Boston, in 1808, gave a particular account of the *Lytta vittata*, accompanied with experiments on its external and internal use, which may be found in the first volume of Medical Communications, published by the Massachusetts Medical Society. As there may be some question whether this is a distinct species from that described by Dr. Gorham; I shall enter minutely into a description of the distinctive characters that mark the two species of insects. The Genus *Lytta* is taken from *Cantharis* and *Meloe*, two Linnaean

genera of coleopterous insects. The generic characters of *Lytta* are as follows, antennae filiform ; four unequal feelers, the hind ones clavate or clubshaped, thorax roundish, head inflected, gibbous, *shells soft*, flexile, as long as the abdomen. The Spanish fly, by some authors called *cantharis vesicatoria*, blister-fly, green, antennae, black. *Lytta vittata* commonly called the potatoe fly, has the following specific characters, shells black with a *yellow margin*, an inhabitant of America. By some entomologists this insect is described as the *cantharis vittata*, head *yellowish*, crown with *two* black spots ; thorax black with *three yellow lines*, abdomen and legs black ; appearing in the *spring* of the year on the potatoe vine.

The species I have discovered and used both in tincture and as a blistering plaster in more than forty different cases, without failing in producing vesication in any instance, I find described as the *Lytta atrata* ; body black, immaculate ; inhabits Barbary, and we may add America, and is known as the *meloe* *Pennsylvanica* of some authors, about *half* the size of the *Lytta vittata* and *entirely* of a *deep black*, to which may be added antennae filiform, consisting of eleven joints ; the first one longer than the rest ; four unequal feelers, the hind ones clavate, thorax roundish, head inflated, gibbous shells *soft* flexile, as long as the abdomen. This insect feeds almost *exclusively* on a species of plant called the *solidago altissima*, belonging to the nineteenth class and second order of the Linnaean artificial arrangement of plants. Its English name is Tall Golden Rod, and is thus described by botanists, stem tall leafy, branching, leaves numerous, long and narrow, marked for their whole length with three nerves, very rough on the edge. Flowers *yellow* in large flat topped corymbs, composed of small heads. The whole plant is pleasantly aromatic, grows by the side of stone walls, more luxuriant in cultivated fields. It commences blooming about the middle of August and continues putting forth its blossoms through September. The *Lytta atrata* may be found in abundance feeding on the blossoms of this its favorite plant, at almost any time of the day.

Those who have the curiosity to make trial of the vesicating powers of this valuable insect, can supply themselves with little trouble or expence. The *jet black* colour will easily enable any one to distinguish this insect from all others that feed on this plant.

Danvers, July 27, 1821.

340 *Case of change of colour in the North American Indian.* [Oct.

Case of change of colour in the North American Indian. By Dr.
EMERY BISSELL.

[Communicated for the New-England Journal of Medicine and Surgery.]

THE subject of this singular phenomenon was Samuel Adams, one of the tribe of Brothertown Indians, living in this vicinity. I saw him in the winter of 1816.—The colour of his skin at that time had undergone an almost entire change—although he was a full blooded Indian, and had been, as he informed me, of an unusually dark complexion, for one of his race. No vestige of the original colour remained, except on the face and arms; of the former, it might have occupied a fourth part, and on the latter, only a small patch was here and there to be seen. On every other part the skin was remarkably clear and white, very delicate and altogether free from disease. Indeed I do not recollect ever to have seen a skin more delicate than his. At the period above-mentioned he was in good health, although more than ninety years of age, and during the summer previous, had laboured daily on his farm. He has been temperate during his whole life, and with one or two exceptions has uniformly enjoyed good health. The change of colour seems, (from his own statement) to have commenced at about the age of 60, in a small triangular patch near the pit of the stomach, and during a state of convalescence from an attack of acute rheumatism. Other similar spots succeeded on different parts of the body, from which as so many centres the change advanced in every direction. The different functions of the system were carried on with a degree of vigour and regularity altogether uncommon in subjects of advanced age. To this remark, however, the functions of the skin constituted an exception. He never perspired sensibly, even in the hottest weather and during hard labour. His skin was extremely tender, being lacerated by the slightest scratch; invariably blistered by exposure to the sun in hot weather, and remarkably sensible to changes of atmospheric temperature. I have not seen him since the year 1816, but have been credibly informed that he continued to lose his original colour until the time of his death, which happened in the year 1818, from a pulmonary complaint. Within a few months I have seen another instance of a similar nature in a female of the same tribe, between fifty and sixty years of age. In this case the change was a partial one, being confined wholly to the arms, it followed an attack of pneumonic inflammation. These are the only instances of this singular occurrence among the aboriginals of our country which

have ever come to my knowledge, although there are several tribes in this section of the country. I do not know that an Albino has ever been produced among them. In the two cases here given, the change began at an advanced period of life, and immediately subsequent to inflammatory diseases. How far the previous condition of the system might have contributed to the production of such an event, or whether it had any influence at all, I leave for others to decide.

Clinton, Oneida County, New-York, May 24, 1821.

[Communicated for the New-England Journal of Medicine, &c.]

MESSRS. EDITORS,

IN the last number of your useful Journal, you have published a communication from me, of the very striking and immediate salutary effect of *Arsenic* in a case of most obstinate and long protracted Syphilis. I have thought it might be useful, to send you a case of a different disease, in which this *Sampson* of the Materia Medica displayed its astonishing power to arrest morbid and noxious associations in the human system, and by its agency, to restore that uniform, equable action, on which health so much depends. We are in the possession of no other medicine, endowed with so much power to stimulate every moving and living fibre in the system, and to render such stimulation permanent, and which, at the same time, can be so readily managed and controlled, as *Arsenic*; for in an experienced hand, with proper care and watchfulness, this medicine leaves no noxious effects behind. Nor does it ever, like *Mercury*, when the system submits to its influence, produce such unmanageable effects and distressing symptoms, or such debilitating discharges.

When we administer *Arsenic*, we have sufficient warning and timely notice, by certain marks and symptoms, which cannot be misunderstood, that will admonish us, as we approach the boundaries of safety, to withdraw, or lessen the cause of these appearances. Or, when we find that our dose has been imprudently or accidentally increased so far, that a continuance of the medicine in *any quantity* would be unsafe, by a dose of salts and the abstaining one or two days from its use, the effect, and every vestige of the overdose will disappear.

In the use of *Mercury* it is otherwise; for how frequently do we find, that in its most careful and guarded administration, cases of distressing salivation suddenly occur, which bid defi-

ance to every remedy or effort of skill for many days, and even weeks?—Besides, I doubt if mercury acts so universally as a stimulant, its power being more particularly limited to the lymphatics.

It ought, however, to be remembered, that *Arsenic*, although safe under prudent direction, is of *too immense* power to be trusted to a careless or an inexperienced hand ; that it is not a suitable medicine to be administered upon every slight occasion ; nor is it calculated for every case of obstinate disease. For instance, where there is pulmonary congestion, or an hectic state of the lungs, I should refrain from its use. So, also, (I hope I need not add,) generally in all cases which are not attended by considerable debility. It is too powerful a stimulant to be resorted to in any case where antiphlogistic remedies are applicable, or where the smallest degree of an inflammatory diathesis is present.* So, also, it is a medicine that must not be incautiously left with our patients without frequent inspection, for having no taste, they will be too apt to consider it as possessing no great power. For myself, I have never administered it, unless I could see my patient frequently ; and even then, not without a caution, that the dose should on no account be increased beyond what is limited. I have, also, uniformly described to my patient those symptoms which indicate when the quantity used is unsafe to be continued, with direction on such an event, to have a dose or two omitted, and the quantity reduced ; or, that all further use of it should be suspended, according to the marks of its effect. And if we should afterward recur to its use, it must be in a lessened dose.

These remarks having been premised, lest from my favorable recommendation, the young and inexperienced physician might too confidently prescribe it in improper cases, I shall detail the circumstances of a case from my notes, as taken at the time.

1818, Dec. 24th. I delivered the wife of T. C. of a female child. The mother had an easy travail, and a good getting up. The infant appeared promising and healthy until January 8th, 1819, when it was fifteen days old. On this day, for the first time since its birth, it was restless and crying ; I was therefore requested to call and see it. On the 9th, an erysipelatous inflammation was discovered in the left groin, extending to the

* Doctor Potter's Inaugural Essay, in Caldwell's Selection of the Philadelphia Medical Theses, for 1805, will explain those cases where the use of this Medicine is appropriate, and also, those where its effect must prove injurious.

labia pudendi and pubes of that side, and over a considerable part of the left nates. The appearance differed from the *erysipelas infantilis*, (which disease I have several times seen,) only by being of a brighter red, or rather of a less dark and purple colour than is usual to that most fatal malady. It proved to be *erysipelas phlegmonoides*. This inflammation speedily produced an ulceration. A day or two after this discovery, there appeared the same kind of inflammation on the top of the left foot, over all the metatarsal bones, and also on the left wrist. In both these places it likewise terminated in abscess. They were all opened between the 19th and 26th of the month, and discharged an abundance of ill conditioned pus. That in the groin and nates, discharged at the first time of opening, not less than two thirds of a pint of very thin fœtid matter. After these first openings, no further inflammation occurred, but an abundant quantity of pus formed and collected by secretion. These abscesses were all opened again and again with the lancet, to discharge the repeated collections. A bandage was applied over the whole lower limb to produce adhesion; but if any part became shifted, so that one turn proved tighter than another, pus would collect near the place of stricture, however slight. To keep the bandage from slipping, a turn was passed round the body; but in two days, two small abscesses or collections of pus were formed in consequence, on the opposite side, and above the pelvis, solely from the pressure and fret of the turn, and without inflammation. Wherever the clothing was accidentally tight, pus would soon be found collected by secretion in the cellular substance. The trunk of the body, also, became universally covered with a thick, dark, scaly mange. The infant pined and was apparently not long for this world. It had become so irritable and restless, that from six to nine drops of laudanum were necessarily administered to this very young infant every twenty-four hours. The decoction of cinchona was prescribed, to be taken with milk, and to be given as freely as possible: also, yeast and the aforesaid decoction to be used for an *enema* frequently; but exclusive of the breast-milk, very little, compared with the urgent necessity of the case, could be got down, or be retained on the stomach or bowels. New openings to discharge the collections of pus were made in all the above-mentioned parts, so late as from the 6th to the 15th of March. On this last date it became necessary to make a new opening near the pudenda.

In this, I may say, hopeless state of the case, I informed the parents, that unless some new action of the system could be excited, sufficiently powerful and energetic to counteract these morbid associations and secretions, it was evident that the child must

soon fail. That there was but one medicine, to my knowledge, on which any hopes or reliance could be placed, as capable of effecting so desirable an object, and which, at the same time, might be safely entrusted; and that was *arsenic*. From my experience in the use of that article, I thought it worthy a trial.

Having previously explained to the mother by what symptoms it might be known, if too large a dose should at any time be prescribed, I left, March 13th, twelve drops of Fowler's solution of arsenic, diluted by twenty-four tea-spoonfuls of sweetened water, with directions to give the child one tea-spoonful, (equal to half a drop,) three times each day. Finding no particular operation from the medicine, on my visit three days after, viz. March 16th, I left a supply, and directed that a double quantity, (equal to one drop,) should be given for a dose three times in twenty-four hours. This dose proved to be too large, for, on the evening of the 17th and morning of the 18th, it operated as an emetic; and the infant was observed to be continually brushing its face, (which now appeared swollen,) with the well hand; without doubt to wipe away the sensation of cob-webs which this medicine is known to create, when given in full dose. The drops were omitted on the 18th in consequence; and on the 19th I commenced giving them again, two-thirds of a drop for each dose. This proved a sufficient and proper quantity.

The sores, from this time, began to mend very rapidly, and the health of the child to improve. By the 22d, the skin had become nearly clean; for the scaly mange was every where falling off, leaving the surface supple and white; the sores ceased discharging; wherever pus had collected, the tumours were disappearing by absorption. On the 29th adhesion had generally taken place; the joints were limber, and the hard places that circumscribed the tumours had become soft and elastic.

April 10th, I omitted the further prescription of arsenic; and as there was some cough, substituted for it the myrrh mixture.

April 26th, the cough is gone, and the child has gained very considerably in flesh; it appears in good health. Omit all further use of medicine.

1821, May 1st. I have seen my little patient frequently, but have this day examined the state of her limbs more particularly; she has not had a sick hour, as the family inform me, since the afore-mentioned recovery, which is over two years. The diseased lower limb is as plump and elastic as the other, but not quite so long. It seems that its growth was retarded by the disease, whilst the other limb was increasing in length. She will probably have to wear an heel on the shoe of this foot nearly an inch higher than on the other. The wrist, I was fearful she would

lose the use of, as the abscess extended through, betwixt, as well as around the radius and ulna, and also over the metacarpus;—but I find the joint pliable and as useful as that on the other arm. There is, however, a small distortion or twist of this hand. The parents, who have a number of children, look upon her as the most intelligent and forward child they ever had. She is certainly a very active, handsome child, and is of large size for her age.

OLIVER PRESCOTT.

Newburyport, August 1st, 1821.

*On the Effects of Fowler's Mineral Solution in controlling spasm,
Communicated in a Letter to one of the Editors.*

SIR,

THE following case of restoration to sight, after the person had been entirely blind for fifteen months, in which the good effect of Fowler's mineral solution in controlling spasms was very apparent, you may communicate, if you should think proper, for the New-England Journal of Medicine and Surgery.

Yours, &c.

RUFUS KITTREDGE.

Portsmouth, N. H. August 7th, 1821.

Benjamin W. Adams, the subject of this case, was formerly a respectable merchant in this place. He is now thirty-two years of age; of a sanguineous temperament, rather stout built, though not of a vigorous constitution, and has never enjoyed very good health. Twelve years ago, last winter, he had a fall upon the ice, striking principally on the back of his head. His vision was considerably injured by the fall, and has never been as good as it was before. He has since occasionally been subject to cramp in the stomach. In the spring of 1818 he removed to Gardner, Maine. Soon after his removal he had a severe attack of his cramp, the spasms for the first time becoming general. He recovered in a few days and remained well until the December following, when he had a return of the spasms more violent than ever. They were most severe about the neck, head, and eyes. In the evening, after a severe paroxysm, he said the room was dark, and called for a light. It was soon found that he could not see. The spasms immediately abated, leaving a soreness in the eyes and great sensibility to light. At first he could distinguish light from darkness; but in a few days the strongest light was imperceptible. In a fortnight he was as well, excepting the loss of his sight, as usual. After this he had several attacks

of the spasms, similar to that which occurred previous to the one in which he recovered his sight, when he was under my care. The above account I received from Mr. Adams, last summer, after his return to this town. The appearance of his eyes was natural; the pupils contracting as when the vision is perfect.

On Friday in the night, March 3, 1820, he was attacked with spasms and pain in the eyes; they soon went off, and he was nearly as well in the morning as before, excepting a soreness in his eyes. About nine o'clock, A.M. he was suddenly seized with spasms in the stomach, which soon became universal, but most severe about the breast, back, neck, and head; they returned at different intervals; respiration, short, quick; deglutition impossible during the paroxysms, and extremely difficult in their intermission, generally producing their return; jaws at times fixed; unable to speak, but in a whisper; severe pain in the eyes, extending to the top of the head.

I saw him about eleven in the forenoon. Learning from his friends that opium, blistering and bleeding had been used on former attacks without much effect, I immediately resorted to Fowler's mineral solution, as given by Dr. Miller in tetanus. I gave twelve drops out of a six ounce phial, with the same quantity of tinct. opium in some brandy and water. The spasms were a little less violent: repeated the same doze in two hours; he was now much relieved and continued so until six in the evening, when the spasms returning I gave him the same quantity of the mixtures. He again became easy; complained of a little nausea. At ten o'clock, P.M. perceiving him a little convulsed, I repeated the solution as before. No return of the spasms through the night; pain in the eyes and head extremely violent; the nausea, with slight vomiting, continued during the night, with a little thirst.

Sunday morning, no alteration; pain in the eyes unabated; most severe in the right; in this, on pressing it with his finger, he said he could perceive a redness, which he had been unable to do since he was blind. Ordered him a cathartic, which operated in a few hours. At ten, A.M. he had a severe spasm in his right eye; it soon went off, but returned again with more violence in about an hour. Suddenly the eye appeared to him like a ball of fire, and very sensible to light; so much so, that the smallest degree was intolerable. The pain in this eye now became less severe, but increased in the left. About ten in the evening this eye was affected with spasm, followed as in the other with return of sensibility and diminution of pain. Monday morning in every respect better; slept some in the night. Tuesday, sensibility and pain greatly diminished: Wednesday,

opened his eyes, and could perceive objects, though very indistinctly. From this time the sensibility to light gradually became less, and his vision improved. The eyes through the whole sickness were uninflamed, but very sore; pulse natural; tongue but slightly furred and no fever. He regained his health as quick as he had done from former attacks, and has had no return of the spasms; but at times has been afflicted with headach; when severe his sight has been much affected; generally, however, it has been nearly as good as before he lost it.

I have no remarks to make upon the above singular case; but would barely suggest the idea, that possibly the blindness might have been owing to a compression of the optic nerves: whether the long continued nausea and vomiting, occasioned by the arsenic, had any effect in removing the compression or whatever caused the blindness, I am unable to say. It would seem, however, that it was owing principally to the spasms, since each eye recovered its sensibility immediately after having been affected with a severe one. But, that the nausea and vomiting had some influence we might conclude from the fact, that in several of the former attacks the eyes suffered equally as much as in the present, without any effect on the sight.

Case of Hydrocephalus. By JONATHAN SHERWOOD, M. D.

[Communicated to the Editors of the New-England Journal.]

A SON of Mr. Jason Francis in his eighth month, a healthy, robust, corpulent child of a very lively disposition, on the 1st day of January, 1821, was burned on the side of his face, and on the 4th of the same month an erysipelatous inflammation appeared on the forehead, extending over the left eye, accompanied with great febrile action. In the course of eleven days the erysipelas spread over the whole surface of the body, attended with heat, thirst, coma and delirium. The eruption advanced rapidly over the scalp, thence down over the neck, back, breast, abdomen and the superior and inferior extremities, leaving a tumefaction on every part which the redness had occupied. After pursuing the usual mode of treatment in such cases, the disease subsided in about eleven days, in so much that there appeared no obstacle to a rapid convalescence. But I soon found, I had a more formidable complaint to encounter, for in the course

of two days, the symptoms of internal dropsy of the brain made their appearance. He was at first restless and uneasy, drowsy and feverish. He cried much and slept little; the skin was hot and dry, especially towards evening, there was a perpetual moaning, and he would frequently start from sleep and scream out as if he were terrified. His eye-lids were half closed. He rolled his head on the pillow, and there was often a hectic flush on one cheek. The bowels were not confined as usual, in this disease, neither had he at this time the slow pulse mentioned by writers. On the contrary it was quick and weak. After the above symptoms had continued a few days, strabismus made its appearance, the axes of both eyes being turned in towards the nose, and the pupils very much dilated. There was coma, and delirium of the most violent kind. His eyes were deprived of their vivacity by the filmy covering of the cornea. He was continually thrusting his tongue out of his mouth as if endeavouring to remove something disagreeable to the taste. There was a troublesome cough, and his head was sometimes drawn backwards.

From the above symptoms, I had no doubt that the disorder was internal dropsy of the brain, and therefore lost no time in adopting the mode of treatment recommended by the late Doct. Rush, except blood-letting, which operation I should have performed, but I could not find a vein.

18th. I gave him a large dose of jalap and calomel, and after shaving the head, a large blister was applied to the occiput and neck.

19th. His mother informed me that the cathartic had operated eight times, and that he became much stronger after every evacuation. His pulse had become slow and full, the delirium was not so violent, and there was less strabismus and dilatation of the pupils. Another dose of jalap and calomel was given, and blisters were applied to the temples.

20th. I learned that the cathartic had produced a number of copious evacuations from his bowels with obvious benefit. There was not so much strabismus, and the pupils were considerably diminished since yesterday, and there was neither coma nor delirium. His pulse was slow and soft. The cathartic of jalap and calomel was again repeated; and on the 21st, I found the pupils contracted to their natural size, the eyes had assumed their vivacity, and there was no strabismus. From this time until the 25th, he was extremely restless and uneasy, and by turns seemed to be in pain. During this period, laudanum given in appropriate doses, and at regular intervals, kept him quiet and easy.

25th. He grew worse, the stupor and drowsiness returned accompanied with pyrexia, and his tongue as before mentioned was in continual motion. But another dose of jalap and calomel removed every symptom of the disease, and from this time his appetite returned and he mended rapidly.

24th of February. He is now alive and in good health.

Champion, Jefferson County, (N. Y.) Feb. 27, 1821.

REVIEW.

ARTICLE X.

Traité des Poisons tirés des règnes minéral, végétal et animal, ou Toxicologie Générale, considérée sous les rapports de la physiologie, de la pathologie et de la médecine légale ; Par M. P. ORFILA, M.D. etc. etc. Tom. iv. a Paris, 1814.

A Treatise on Mineral, Vegetable, and Animal Poisons, considered as to their relations with Physiology, Pathology, and Medical Jurisprudence. By M. P. ORFILA, M.D. of the Faculty of Paris, Professor of Chemistry and Natural Philosophy. Translated from the French, by JOHN AUGUSTINE WALLER, Surgeon. In two volumes. Second edition, corrected. Vol. II. London: 1818.

A General System of Toxicology : or, Treatise on Poisons, found in the Mineral, Vegetable, and Animal Kingdoms, considered in their relations with Physiology, Pathology, and Medical Jurisprudence. Abridged and partly translated from the French of M. P. ORFILA, M.D. P. By JOSEPH G. NANCREDE, M.D. &c. &c. Philadelphia: Published by M. Carey & Son. 1817.

IT is not our intention to review the great work of Orfila on Toxicology. It has passed the trial of criticism in Europe, and has gained reputation in proportion to the severity of the examinations to which it has been submitted. The author, as far as known means have allowed him, has filled a great blank in a very interesting part of pathology. To do this, he was obliged to create a vast body of disease ; to observe and study the phenomena which presented during life, and then to show what structures had suffered, by examinations after death. All this has been effected by subjecting inferior animals to all known poisons ; a procedure which some men cannot reconcile with humanity, but which, within proper limits, may be safely referred to the same necessity, which makes some evil the condition of a vast variety of good. The next objects with Orfila were the

antidotes to poisons, and the best means of treating the diseases which occurred immediately in consequence of the failure or inapplicability of counterpoisons, and of those which were the effects of the first impressions made by poisons, and which in all cases cannot be prevented by the best use of antidotes. The last and great object to be enumerated, was the means to be employed to discover under all circumstances, the poisonous substance which might have in any instance endangered life, or produced death. The successful accomplishment of these objects, or in the degree presented in this work, constitutes the great and peculiar merit of Orfila's labours.

The principles which govern us in the treatment of cases of poisoning, differ somewhat from those which direct the ordinary treatment of disease. In these cases, something has been conveyed into the stomach, for instance, which if allowed to remain there, will not merely disturb its functions, but, in many cases, will injure or destroy its structure. It is to be expelled therefore, on its own account, as well as for its remoter effects. But we are not able, in all instances, to effect its complete expulsion, or in season to prevent its deleterious effects. We are then to do something else. This consists in effecting such a change in the properties of the substance, that its delay in the stomach, and passage through the intestines may be comparatively harmless. It is in these circumstances that the peculiarity of this branch of medicine consists, and it is on these principles that Orfila has founded his therapeutics. He has demonstrated that chemical changes may be effected in the stomach, in the substances which may be conveyed into it, and an inert product be the result. The doctrine of *antidotes*, is thus with him a perfectly philosophical one, and of practical application. It is not a system of unfounded, and inapplicable speculation, but the result of multiplied experiment. This doctrine is purely chemical, and is intimately connected with a subject of great interest, the discovery of the precise nature of those substances which may have been administered accidentally, or given purposely to destroy life. The means which ordinarily produce the most important and beneficial changes in poisons when present in the stomach, are among those which if employed out of the body, will go far to detect the nature of the poison which may have been administered. This is very beautifully illustrated in the instance of corrosive sublimate, when treated with albumen. This last substance, while it is the best antidote to the effects of this poison, furnishes also an excellent test for detecting its presence. From this, and numerous similar instances, toxicology becomes associated with legal medicine, and

it is from this alliance it derives its principal interest. It is in this view, that the great value of Orfila's work consists. He has laboured with unabated zeal, to arrive at the knowledge of the very best means for ascertaining the presence of poison in suspected cases, and to discover its nature; and not merely to do this where the quantity is great, and the steps few, but where the quantity remaining is the smallest, and the processes for detection in every way complicated. It is in the success, in which these efforts have resulted, that we find the amount of the service, which these labours have produced. We cannot, therefore, but regard those portions of this work which are devoted to the chemical history of the articles treated of, as constituting one of its most valuable departments, and for which the author deserves all praise.

Orfila seems to have anticipated the objections which might be brought against the use of the term *antidote*, or counterpoison, on account of the vulgar use which has been made of it. He therefore defines the term as he means to employ it in his first volume, and when giving the treatment of poisoning by corrosive sublimate, and his experiments justify his use of the word. But as if still more desirous of removing all objections, he recurs again to the subject in his 1020 section. We shall extract a portion of the section that refers to this point.

"The word *antidote*, has, amongst many physicians, two different acceptations: at one time, they give that name to a substance capable of decomposing rapidly the poison in the stomach, and of forming with it a substance that is insoluble, and destitute of any action upon the animal economy; at another time, they apply it to every medicine which, without any kind of power of decomposing the poisonous substance, diminishes the effects to which it gives rise, quiets the symptoms of the disease, and is even capable of putting an end to them altogether. It is unnecessary to shew how little the denomination of an antidote is applicable to these medicines. For instance, is it not absurd to say, that leeches are the antidote to corrosive substances, because they have frequently, when applied to the belly, put an end to symptoms of inflammation which had succeeded to the ingestion of some corrosive poison? And how many more instances of this kind could we not adduce?" p. 471.

This extract is made because it has been omitted by the American translator, and as his edition may be most read here, it is due to Orfila, that the doctrines advanced in his book, should at least receive his own support.

This work was early and fully translated in England by Mr. Waller. The American abridger has adopted the translation of Wal-

ler. His abridgment is contained in one octavo volume of 465 pages, of these 20 are devoted to an index, and of the remaining 445 pages, 325 are printed with scarce any alteration from the English book. The principal differences consist in the rejection of references to various parts of the work which are frequently made by Orfila, and in those verbal additions, which Dr. Nancrede's mode of abridgment makes necessary, in order to connect parts with each other. This mode is somewhat peculiar, but is more remarkable for its simplicity than for any other character. It seems to have consisted in a rapid glance over the contents of the pages, and in marking such passages as might give a reasonable notice of the things treated of. Two circumstances have led us to this conclusion. The first is the imperfect manner in which the abridger has established the connection of parts in many instances. The second however is the most conclusive, and that is, the translator has frequently allowed references to parts to remain, for instance, to chemical experiments, which it was unnecessary in Orfila to repeat; but he has entirely forgotten to give the parts themselves which are referred to. Now this is not to be accounted for from a common carelessness, but must have resulted from a great want of interest in the work itself, and it places the reader in somewhat of an awkward situation, for if he has any occasion for Orfila's work, it would be frequently for purposes which the original was precisely intended to meet, and has provided most amply. The purposes referred to are the detection of poisons and the discovery of their nature, in cases where all precision is necessary, as the discovery not unfrequently involves reputation and even life. The following are instances of the oversight alluded to. At page 28, a reference is made to experiments made for the detection of corrosive sublimate, by means of hydrosulphuret of ammonia, nitrate of silver, &c. &c. but the experiments themselves so beautifully given and explained by Orfila are entirely omitted. At page 29, third paragraph, reference is made to the *forms* under which corrosive sublimate appears, as being *pointed out* in this volume. No such forms are mentioned. The same oversight occurs at page 30, in which the precipitates formed by chromate of potash, muriatic acid, ammonia, and hydro-sulphurets with corrosive sublimate, are indicated, but which are fully treated of by Orfila. At page 31, line 11, the words "which may be easily ascertained" occur, but with out reference to the means. A reference to the process is given by Orfila, and the value of the experiment may thus be realized. At page 32, we read, "Nevertheless, in both of these experiments, these parts, treated in the manner I have

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pointed out, have furnished me metallic mercury in globules, or nitrate of mercury, at minimum." Orfila refers distinctly to the part of his work in which the manner is pointed out, viz. the 63d section, or numbered paragraph. This is extracted from Waller by Dr. Nancrede, but he omits to indicate by distinct reference, its place in his book, and an unnecessary embarrassment is the consequence of the omission.

These instances are furnished by a single article. They are stated particularly to substantiate the remarks which precede them, and to justify another, that the same sort of negligence prevails throughout the work. The article copper, affords many and still more glaring instances, but it is not necessary to collect them. We have regarded these defects as the consequence of the mode of abridging adopted by Dr. Nancrede. Now there are two methods by which this business may be managed. The first consists in condensing the language or style of an author, which is so often unnecessarily diffuse, and thus bringing within a short compass, what has occupied a great extent of surface. This method can, however, hardly be applied to the work of Orfila. His work consists so much in naked, unvarnished experiment, that it could hardly be abridged in this way unless we were to leave out some of the agents, for instance, employed, in his experiments, which would destroy the whole; or omit symptoms, or treatment, or læsions, which would only be, to make the work imperfect. The second method by which abridging might be managed, is by omitting entirely, those parts of a work which are hardly susceptible of any very general, every day application, and of the details of those means, in a medical work, which experience may have found perfectly useless. The work of Orfila might have been submitted to this process, and a great deal have been omitted which the American translator has carefully retained. Thus Orfila has devoted much time and many pages to the examination of various means of treating cases of poisoning, which means were in repute, but were of questionable value. He has settled the question of utility in them all, and rendered an important service by so doing. The details here might have been omitted, and the results only mentioned. To render his work complete, Orfila has given an account of all known poisons. He has said every thing concerning their history, at all applicable to his purpose. In doing this he has made his work all that could be desired of it, a whole body of toxicological literature. An useful abridgment however might safely want many of the articles of which so

much has been said in the great work, and had Dr. N.'s been of this kind, there would be far less to object to than his present work affords. Orfila has published full references to the authors and books he has quoted, and in this way rendered a great service to the student, but Dr. N. has almost without exception omitted this very valuable part of the work.

It seems that the most important omissions in the American book, are to be found in the Chemical History, as Orfila designates it, of the most important poisons treated of. We cannot but regard this as a very serious defect, and on account of it should hardly feel justified in recommending the work as adequate to the most useful applications, of which Orfila's is susceptible. There is another subject in which somewhat similar omissions have been practised. We refer to the *lesions* produced by poisons. This subject is to be sure after all the labours bestowed on it, still in itself imperfectly settled. But this is an argument for stating all that has been observed, rather than for omitting any part of it.

The portion of Orfila translated by Dr. N. forms not one quarter of the whole, the main part being printed from Waller. This constitutes no very serious objection to the abridgment, but we cannot but express some regret, that the new translator should have devoted himself to that part of the work which is principally interesting, from containing much that is rare, and which provides for very rare contingences, rather than for the chances of every day. This is indeed not the character of all that is newly translated, but is true of by far the greater part. Considering Dr. N. as the pupil and friend of Orfila, relations, which he informs us in his preface he sustains, we cannot but regret that he has given his time to the least important part of the work of his illustrious master.

There is one part of the work which on no account should have been abridged. It is under the title of *Poison generally Considered*. Under this head a most lucid abstract of the great body of the work is given, and with this much that had not been before alluded to. Among other important topics, the process for the medico-legal examination of dead bodies, is contained in this part, and various interesting experiments. These are omitted, and thus the same character of imperfection attaches to the more original portions of the American edition, which belongs to the various re-prints from the English translation.

We have been induced to make this late examination of the labours of Dr. Nancrede, because we believe his abridgment is calculated to give rise to an improper estimation of the work of Orfila. We regard this work as a classic in the department to

which it belongs, and as presenting in one view all that is valuable on the subject of Toxicology in the present state of our knowledge. We object to the mode of abridgment which has been adopted in this instance, because its tendency is to make knowledge amongst us superficial. It may save labour, but the learning it yields is comparatively useless. It fits us for talking, rather than for acting, and in the emergencies of actual duty, confuses us with an exuberance of means, but gives us no judgment for their selection, or their best uses. The worst of it is, such works are and must be popular, for they are comparatively cheap, and may be readily procured; and are comparatively short, and of course easily read. One thing however, seems due the authors of the works, of which they profess to be abridgments, they should not bear their names. The responsibilities of authorship will thus rest where they belong, and an imperfect work want the injurious patronage of a great name.

ARTICLE XI.

An Historical and Practical Treatise on the internal use of Hydro-Cyanic (Prussic) Acid, in Pulmonary Consumption, and other diseases of the chest; as well as in several complaints attended by great nervous irritation, or acute pain; with full directions for the preparation and administration of that medicine; and a preliminary descriptive account of the principal diseases in it which has been employed, illustrated by numerous cases. Second Edition, greatly enlarged. By A. B. GRANVILLE, M.D. F.R.S. &c. &c. London: 1820.

THIS volume contains the author's former communications concerning the Prussic Acid; much additional matter, and a defence of the medicinal uses of this article. The prussic acid is an article of much power; it has been tried by many physicians in a variety of affections, and its advocates discover great zeal in employing and recommending it. The introduction of this substance into medical practice has met with its share of opposition.

The objections to the prussic acid noticed by Dr. G. are founded in its frequent failures; the untoward symptoms which have been produced by it, or its dangers; and our acknowledged want of control over its effects. Dr. Granville meets these objections by a reference to similar facts in the history of other

powerful articles of the *materia medica*, and regards this species of argument as conclusive against the alleged objections. We do not think this reply satisfactory. Such objections as are made against prussic acid are of great weight, when they are found to exist against any article. It may be however, that experience has shown that the evils are overbalanced by the virtues of such article, and in such case we employ it. This is the case in respect to opium, digitalis, mercury, &c. Now it must be shown to be the case in respect to prussic acid before we can recommend that for general use.

The analogy fails in another view. Most of the powerful articles of the *materia medica* produce specific effects on the constitution, by which we learn, when we have arrived at as large a dose as is safe. But the prussic acid gives us little warning of this kind, and the first evidence we may have, that the dose is too large, may be from convulsions, and symptoms threatening instantaneous dissolution.

The defence therefore of the prussic acid derived from the analogies of other medicines, is not in our apprehension its best defence. This should be looked for solely and entirely in the successful result of a large and varied experience. In this way alone can the laws by which its operations are governed, come to be understood, or the principles be discovered which are to regulate practitioners in exhibiting it. It will then rank with other useful means of treating disease, and its failures be referred to their true, and known causes.

There is another objection to the prussic acid which deserves very particular notice. It is the uncertainty, which exists in regard to the precise strength of the article, as prepared for medicinal purposes. Our uncertainty on this point, adds very much to the risks of the other evils which have been adverted to. Let it be prepared ever so carefully, by the same chemist, and after precisely the same formula, there are circumstances which cannot but influence its properties, particularly its strength. The materials from which it is obtained are rarely if ever precisely similar, different processes therefore take place; in a very slight degree perhaps, but which cannot fail to influence the character of the acid itself. It is not to be questioned that the effects of various preparations, though made after the same formula, are notoriously dissimilar. We have been informed by a practitioner here, that he has given 20 drops repeatedly in the course of the day to a child 8 or 9 years old, without any bad effects. Mr. Travers it seems has observed the same thing.*

* See *Medico-Chirurgical Review and Journal*, No. 15. March, 1821, for note in Dr. Granville's reply to a review, which appeared in the Jour-

Others have given half the quantity and observed no ill consequences, while two drops only, in the hands of another, have produced symptoms which apparently threatened life. This can only be accounted for, from the difference of strength of various samples, though made professedly after the same method.

There is another objection closely allied to the preceding, which deserves notice. This is the liability to decomposition in this article as commonly prepared for medical use. Dr. Granville has noticed this objection.

"I have reason to think, that even under ordinary circumstances, the medicinal Hydro-cyanic Acid undergoes decomposition on being kept, especially when mixed with other medicines: in which case the resulting new compounds, or the elements of the acid (for I have not ascertained which) seem to act as irritating substances on the stomach; and to excite, at times, rather than depress, the nervous energy. I have often had occasion to remark, that a first and second dose of a mixture of which the Hydro-cyanic Acid formed a part, have acted as a sedative, and powerfully contributed to calm nervous irritability; while the third or fourth dose of it, taken in continuation, some hours afterwards, appeared not only to have lost that effect, but to have acquired the new property of producing excitement and irritability, and of greatly increasing the velocity of the pulse. If, under such circumstances, the mixture was renewed, and fresh acid used, the same quieting effects were produced, almost immediately, on the system, as in the first instance. This observation has induced me to recommend the distillation of a small quantity of the acid only, at a time; and it shews, moreover, the necessity of prescribing that medicine, in such doses only, as will last twenty four hours and no longer, when combined with other substances." pp. 405—406.

Dr. G., at the suggestion of Professor Brera, has in some cases employed the prussiate of potash in combination with tartaric acid, instead of the *free* acid, and in slow chronic disorders has not only found it sufficient for the purposes for which the acid has been given, but even preferable. It is made into pills after the following formula.

"No. 12.—R. Potassæ Hydrocyanatis gr: vi.
Acidi Tartarici crystall: gr: iii.
Micæ panis q. s.

F. *Pilulæ ii. bis, vel ter de die, deglutiendæ.*"—p. 411.

It is obvious how much the difficulty of using this medicine is increased, if the cautions above suggested are to be constant-

nal of Science, edited by Mr. Brande, which reply Mr. B. refused to publish in his Journal. See also the *New-England Journal of Medicine, &c.* Nos. 1, 2, of the present volume.

ly regarded. In a great city this may be done. But in how many situations will it be impossible. Will it not follow that in such situations practitioners will be tempted to neglect the cautions which Dr. G. thinks so necessary?

We have thought it proper to introduce the notice about to be offered of this book, with the foregoing remarks, because in a case like the present, every objection deserves notice, and because individual opposition to the remedy, has drawn from the writer a general defence. It is to be regretted that with this, some signs are betrayed of wounded feeling on the part of the author. It certainly does not always happen, that the author is identified with his book, and where his character is established, and his leading object in writing is utility, this is never done by men whose opinions are worth any regard. The effect of extreme sensitiveness on this point, is to diminish confidence where it is most desirable; and to incline prudent men to the opinion, that the author's personal feelings have coloured his representations. There is no excess, it is true, in the present instance, but it has appeared to us that there was no demand for feeling at all. The opinions of an anonymous reviewer are, after all, very harmless things, when opposed to the testimony of well-authenticated facts; and as these last are always sufficient for themselves, it is, in most cases, a lost labour which is directed towards their support. We shall endeavour, in what follows, to present to our readers such circumstances in the medical history of the prussic acid as may be useful in directing its employment, and which are least connected with mere speculation.

What are the effects of Prussic acid on the human system, and in what diseases is it reputed to have proved beneficial. "Every practitioner," says Dr. G., "who has had any experience in the use of the medicine under consideration, agrees in thinking, that the prussic acid acts directly on the nerves, and through them, on the circulation."—"Majendie considers it as annihilating, when given in large doses, the muscular and nervous power, without extinguishing the nutritive functions of life." p. 50. 52. It has a lowering effect in some diseases of excitement—it diminishes general irritability. Its excessive and fatal use produces neither convulsions nor pain. Nor did I, says the writer, discover the faintest trace of organic inflammation, under such use. The prussic acid is eminently sedative, it checks the pulse, promotes expectoration, and subsequently stops cough. It subdues the spirits, and gives an unusual character of meekness to the expressions of the countenance and to the voice. It relieves pain, sleep comes on undisturbed, the respiration is softened by it.

"In some few cases, these sedative effects are so much more considerable, that the patient expresses himself as if only 'half alive.' On those occasions, there is an apparent entire prostration of strength, great lowness of spirits, and unwillingness to move, speak, or take food; life seems suspended, yet the head and mind remain clear and intelligent; there is a total absence of pain; neither does the patient complain of any symptom of local or general irritation; the heat of the skin is natural, and the pulse, in the midst of this dead suspense, continues its course steadily and quietly. This state of things lasts from 12 to 24 hours, when it ceases; and every organ is gradually restored to its former integrity of function." p. 56.—These cases, the author says, are rare, and proceed from too great a dose of the acid, or depend on idiosyncrasy.

The diseases in which the prussic acid has been employed with such repeated good effects, as to authorize its introduction into medical practice, are, coughs; hectic fever, from various causes; pulmonary consumption; asthma; sympathetic cough; whooping cough; chronic inflammation; diseases of the lungs; pneumonia; pleurisy; abortion; profuse or painful menstruation; spitting of blood; vomiting of blood; internal hæmorrhage; nervous diseases; organic affections; local diseases. It has been used in the following species of consumption: 1st. in which the disease is owing to a peculiar formation of the chest, and probably of the lungs; 2d., when owing to a vitiated state of the animal fluids, both incipient and confirmed; 3d, when subsequent to catarrh, pneumonia, pleurisy, bronchitis, and hæmoptysis; 4th, occurring during pregnancy, immediately after parturition, from long suckling, or at the period of ablactation; 5th, from a single abscess or vomica, the effect of accidental inflammation of the pulmonic texture, or of the membranes, in consequence of local injury.

Poisonous effects of the Prussic Acid. The symptoms attendant on poisoning by this Acid are as follows:

"Stupor and numbness, with oppression and a sense of gravitation at the summit of the head. Yawning and an irresistible disposition to sleep; vertigo, and dizziness of sight. All or any of these preliminary symptoms, according to the quantity of the poison taken, are generally observed by the practitioner, if sent for in time. The pulse is found to be rather strong at first, but flags soon after, and becomes either frequent wiry, and small,—or slow and vibrating. A paralytic state of the extremities is remarked next, the pupil remains unalterably dilated—the sensibility of the organs of sense is greatly diminished. Every animal function seems impaired, except respiration, which is very rarely indeed, accelerated or difficult. Vomiting and hiccup shortly precede the aggravation

of every nervous symptom, when life ebbs fast, and becomes at last extinct. In no instance of poisoning by other narcotics, does death approach so meekly. It seems like the slow descending of the last curtain, which takes from our sight the closing scene of a tragedy." pp. 89, 90.

Remedies against the poisonous effects of the Prussic Acid. We are ignorant of any counteragent of this poison.

"In fact how can it be otherwise? If it be true that a few minutes after death, the poison is not to be found either in the cavity of the stomach or in any other part of the system where remedies can reach it."—"There is every reason to believe that the Prussic Acid, taken in large quantities and in its concentrated state, is partially, if not wholly absorbed ere it reaches the stomach—else how happens it that scarcely a minute after its exhibition, I have, in common with others, been unable to detect its presence within that organ. If so, then all chemists attempts must be nugatory—no decomposition, or fresh combinations can be produced to render it harmless; nor will an emetic, although so much recommended, be of more service in freeing the system of its presence."

"Hot brandy and water, with perhaps some liquid ammonia—or the latter in combination with camphorated spirit, properly, though sparingly diluted—or oil of turpentine, are of all the means employed, by far the best and the most effective. I feel confident, that in some instances I have succeeded in restoring to healthy action an animal, which but for the means above described, would have fallen a victim to the deleterious effects of the Prussic Acid, though given in a moderate quantity. Happily I have never had occasion to try these counteracting substances on the human system; but in the recent case of a lady who had imprudently repeated too often the prescribed dose of the acid, from a desire of encreasing the comforts which she had already derived from its use; the frequent potation of hot brandy and water succeeded in removing all the alarming symptoms that followed her imprudent determination.

"I should therefore recommend, in cases of danger from the inadvertent or premeditated administration of too large a quantity of this medicine, the means I have last mentioned, given liberally, and immediately." pp. 91—94.

To detect the presence of this acid in a suspected case, the following processes are detailed by Dr. G.

"After collecting the blood contained in the ventricles of the heart, a portion of the contents of the stomach, and of the superior intestines, together with a certain quantity of any fluid which may chance to be present within the cavity of the head, chest, or abdomen—and having agitated the mixture for sometime in distilled water, and filtered the liquid, (taking care to keep the whole at a low temperature,) proceed to the following experiments.

A. To a small quantity of the liquid add a few drops of a solution of caustic potash in alcohol.

"B. To this, a few drops of a solution of sulphate of iron must be added, when a cloudy and reddish precipitate, of the colour of burnt Terra-Siena, will fall down.

"C. Some sulphuric acid is now introduced into the tube, when the colour of the precipitate will instantly change to that of a bluish green, which by a permanent contact with the atmospheric air, becomes gradually of a beautiful blue, assuming at the same time a pulverulent aspect.

"OR

"A. Treat the filtered liquid with carbonate of potash.

"B. Add a solution of sulphate of iron with a small quantity of alum: a precipitate, as in the former method, will fall down which if treated by:

"C. Free sulphuric acid, will also become blue and pulverulent. During this last experiment there is a disengagement of carbonic acid gas.

"The reader may satisfy himself of the correctness of these experiments, by treating, according to either of the above methods, a small quantity of water to which a single drop of Prussic Acid has been previously added, when the same results will be obtained. If, on the contrary, a similar experiment be made upon plain water, or any animal fluid not containing the Prussic Acid, the effects above described will not be observed.

"Evidence may be pushed still farther, and the existence of the Prussic Acid proved in a more positive manner, by decomposing the precipitate, which is a true Prussian blue, so as to separate the acid. For this purpose, heat the precipitate with an equal quantity of tartaric acid in a glass retort, at the temperature of 150° , when the hydro-cyanic vapours will soon exhale from the mixture, and may be received in water." pp. 95—97.

Mode of prescribing the Prussic Acid. "The Hydro-cyanic acid is less soluble in water than in alcohol; and is not decomposed by any of the vegetable substances. It may, therefore, be given in vegetable infusions, and syrups may be added, if necessary. It is decomposed by most of the oxydes usually employed in medicine, particularly by those of mercury and antimony." These are, therefore, incompatible. It may be given along with earthy and alkaline solutions. It should not be given with any of the preparations of silver, of iron, or in combination with any of the sulphurets. "It is indispensibly necessary to use no other than distilled water in all prescriptions having the prussic acid as one of their ingredients; or decomposition of the salts contained in common water, and of the acid will take place."

The following are among the inferences drawn by the author from the facts brought forward in his treatise.

- "3d. That the Medicinal Hydro-cyanic Acid, is a safe and highly useful preparation.

"4th. That the Medicinal Hydro-cyanic Acid can be employed as the best palliative in cases of *confirmed* tubercular consumption : and that in some well authenticated instances, it appears to have effected a cure of that disorder.

"5th. That it checks the progress of pulmonary consumption, when in its *incipient* state.

"6th. That in all cases of asthma, chronic catarrhs, and coughs of long standing, it has proved beneficial, where every other medicine had failed.

"7th. That in dry and spasmodic coughs, and more especially in whooping-cough, the Medicinal Hydro-cyanic Acid has been used with great success.

"8th. That in sympathetic cough, arising from chronic or incurable diseases, it has proved a valuable sedative, and succeeded in alleviating that distressing symptom.

"9th. That in painful and difficult menstruation—in abortions followed by much pain—in floodings—and in spitting of blood, experience has shown it to be a safe and very efficient medicine.

"10th. That in the treatment of nervous diseases and derangements of the stomach, the evidence in favour of the acid is most decisive.

"11th. That it may be used with decided advantage in cases of sub-acute inflammation, when it will prevent the necessity of blood-letting ; and that in complaints of a highly-inflammatory nature, and fevers, it will be found a powerful auxiliary in restoring the standard of health.

"12th. And finally, that there is every reason to believe that the Prussic Acid may as a powerful sedative, be employed where all other narcotics cannot ; and that, as such, it might be applied to the relief of high spasmodic action ; excessive irritability ; and acute pain ; with decided advantage." pp. 413—415.

It was not our purpose, in this article, to make a critical examination of Dr. Granville's work on the Prussic Acid. We have distinctly alluded to the objections which have been made to this medicine, and to the dangers which are incurred in its use. This has not been done to injure its reputation, but for the purpose of showing that reasonable and very strong objections exist to its indiscriminate or careless use ; and farther to show, that in the present state of its history, that its failures and its dangers, while they deserve the particular consideration of those who employ it, are also calculated to lead to a very different result in the estimation of its pretensions, from that which the occasional failure of long tried medicines gives rise to. In the one case they are merely exceptions to a very general rule, whereas in the other, the rule itself is not established, and time alone can determine, whether what may now appear the exceptions, will not become the rule itself. Since the appearance of Dr. Granville's volume, the evidence we have met

with as furnished by the practice of other individuals both here and abroad, has not tended to increase our confidence in the medicinal uses of the Prussic acid.

ARTICLE XII.

1. *Aphorisms on the application and use of the Forceps and Vectis; on preternatural labours; on labours attended with hæmorrhage, and with convulsions.* By the late THOMAS DENMAN, M. D. &c. &c. Seventh edition, with a portrait of the author. pp. 78. London, 1820.
2. *A Treatise on Midwifery; developing new principles, which tend materially to lessen the sufferings of the patient, and shorten the duration of labour.* By JOHN POWER, accoucheur, &c. pp. 270. London: 1819.
3. *A Synopsis of the various kinds of difficult parturition, with practical remarks on the management of labours.* By SAMUEL MERRIMAN, M.D. F.L.S. Third edition, with considerable additions; and an Appendix of Illustrative Cases and Tables. pp. 324. London: 1820.
4. *Outlines of Midwifery, developing its principles and practice; with twelve lithographic engravings.* By J. T. CONQUEST, M.D. F.L.S. &c. pp. 193. London: 1820.
5. *Report of the Practice of Midwifery, at the Westminster General Dispensary, during 1818; including new classifications of labours, abortions, &c. &c.* By A. B. GRANVILLE, M.D. F.R.S. F.L.S. M.R.T., &c. &c. pp. 220. London: 1819.
6. *Practical Observations in Midwifery; with a selection of Cases, Part I.* By JOHN RAMSBOTHAM, M.D. &c. &c. London: 1821.

THE list of books which stands at the head of this article, contains some of the new works which have appeared recently on the subject of Midwifery, and the last editions of older works. From the list it appears that this branch of medicine has not been neglected, and an examination of the works will show, how much it has gained from the attention which has been within a few years directed towards it.

DENMAN'S APHORISMS.

THIS first work on our list, is one of the later works of the late Dr. Denman. This is a miniature edition of the aphorisms, and is reprinted without addition or alteration from the

editions of its author. One edition at least of the Aphorisms has been printed in this country. It is a very useful companion to midwifery practice. All the important practical rules which are to be found in the "Introduction" by the same author are contained in it, and along with these some valuable additions. The cases of *spontaneous evolution*, which had come under Dr. Denman's notice before publishing the aphorisms are among the additions referred to. These it may be remembered, were particularly noticed in a review, published in a former number of this Journal, of Dr. Douglas' Explanation of the "real process of spontaneous evolution." Dr. Denman gave offence to some of his fellow practitioners by his expressions in the Introduction of preference to the vectis over the forceps. No one has expressed himself so warmly on the subject as his colleague Dr. Orsborn, who seems never to have been made acquainted with this preference till after the appearance of the Introduction. In the Aphorisms this misunderstanding is glanced at, and although the real opinion of Dr. D. is neither concealed, nor his former one altered, he leaves the question of superiority or preference, to be decided very much by individual experience, or by the greater ease and success with which either of the instruments may be used. In the face presentation, and in the case in which the face is to the pelvis, the vectis will be generally found the most convenient instrument; and while it may answer every useful purpose in other presentations, as much may be said for the forceps.

One excellence of the Aphorisms is its size. It was far smaller than any other respectable book of the kind, until the appearance of Dr. Merriman's work on Difficult Parturition, at least of its second edition; and it has recovered entirely this useful distinction, by the large octavo form which Dr. M.'s work has assumed in its third appearance before the public. It is not saying too much to assert that the Aphorisms, is one of the most useful works we have on midwifery, and we say this, in order to call to it the attention of those who may be unacquainted with it, and who, before performing some of the important operations, and in the embarrassing cases in midwifery, would not be averse to refresh their memory in regard to practical and important minutiae, if they could do it by an easy reference to so valuable an authority.

POWER'S NEW PRINCIPLES OF MIDWIFERY.

MR. POWER'S work which stands second on our list, is placed there, not because it is prior in point of time to Dr. Merriman's first edition, but because it is earlier than the one we mean to notice. Mr. Power advances new principles in midwifery,

and tells us that if they are understood, and acted on, a very great improvement will be made in the practice of the art. He teaches that parturition consists in a series of actions by which the contents of the gravid uterus are separated, and expelled from it,—that the uterus is muscular, and that delivery is chiefly effected by a contraction of the muscular fibres of the uterus,—that the contractions of the uterus are produced in consequence of certain impressions excited by its contents upon its orifice,—that the parturient energy or principle, is a modification of nervous power, determined to the uterus for the purpose of actuating its muscles at the period of parturition—that pain is neither an essential or constituent part of labour,—that the pains of labour depend, in the most distressing instances, upon actions of the nervous system adventitiously, and sympathetically, influencing that modification of the nervous energy which constitutes the *parturient principle*,—and finally that this adventitious and sympathetic nervous influence, or these pains, depend upon, or result from a principle of metastasis, which last by the way he is willing to consider as purely hypothetical. Such in a very few words is the substance of the new principles of our author, and the advancing of which he regards with no little self-complacency, in the view of the tardy progress made by midwifery, while all has been hurry, and bustle, and discovery, in the case of general medicine.

Mr. Power conceives that Dr. Denman had a glimpse of these new principles, and that he has founded some very important distinctions on the view he was able to take of them. He deserted these guides however, very soon, as may be discovered in his declaration that pain was among the elements of labour, or more correctly, that pain is synonymous or nearly so with uterine action, and that no pain in labour was fruitless, or without its effect in promoting the accomplishment of the process. Now if Dr. Denman, which is highly probable, used the word *pain* in its popular and technical signification, and according to which it simply means uterine contraction, whether painful or not, we see no reason why he should be regarded as having deserted the *parturient principle* of which he seems to have had at least a distant view. We are willing to confess at the same time, that it is our decided belief that Dr. Denman believed that labour is in itself a painful process, that painless labours are among the exceptions to this fact, and that Mr. Power has a right to the discovery to which he lays claim. If the reader is desirous to see the other side of this question, and well supported too, we refer him to Dr. Orsborn's Essays on the Practice of Midwifery,

which have much to recommend them to a careful perusal, independent of the ability with which this subject is discussed.

This treatise begins with a very general account of the anatomy of parturition, embracing the gravid uterus, and its contents. Next we have the physiology of parturition. In the second section of this chapter, the preparatory, or precursory actions of the uterus, as it regards labour, are mentioned. The subsidence of the abdominal tumour, one of these precursors, is accounted for in a new way by Mr. P. He remarks that before this happens, or during the greater part of pregnancy, the uterus embraces its contents less closely than it is capable of doing, surrounding them in a loose and relaxed manner, and that the subsidence is the consequence of the uterus contracting itself upon these contents as if ready and eager, in the author's language, to commence the parturient process. Mr. Charles Bell accounts for the subsidence by supposing that the *fœtus* undergoes some change of position at the close of pregnancy, by which the head comes to occupy its lowest part, and that as a consequence of this the uterine tumour subsides in some measure into the upper part of the pelvis. Dr. Ramsbotham, in his work, to be noticed by and by, teaches that the *fœtus* undergoes no change whatever in the uterus, and that the presenting part has of course occupied the lower part of the womb during the whole period of pregnancy. If this be true, the opinion of Mr. Bell is invalidated. There are some facts, however, in this connection, which rather incline us to the doctrine of Mr. Bell, such are the increased irritability of the bladder, or the frequent desire of passing the urine,—the disturbance noticed in the functions of the rectum,—the uneasiness in the lower extremities, and the difficulty of motion experienced by many individuals after the subsidence in question. Mr. Bell mentions another fact of some practical consideration, which favours his opinion. It is, that where the subsidence has occurred regularly, and in a notable degree, we may predict a head presentation, and where it is very considerable, that the most favourable position of the head has taken place. We sometimes notice an elevation of the tumor after subsidence, and most frequently is this the case, where the latter has occurred, some considerable time previous to the termination of gestation. This may be explained perfectly well on Mr. Power's supposition, and if so, we are only to suppose a relaxation of his preparatory contraction. According to Mr. Bell's, we trace it to a change of position in the *fœtus*.

Mr. P. proposes an additional mode of examination to that already in use, for ascertaining the existence of labour. It consists in placing the hand on the abdomen during pain, for the purpose of discovering if this sensation is accompanied by a sensible contraction of the uterus. If this be the case, genuine labour is present, if not, true labour is wanting. This mode will not teach us the presentation, nor the progress of the case, but may supersede much that is done, commonly with a view to learn if the uterus is acting well or not. Of the value of this method we can say nothing from experience, but we have an impression, from a notice of the last edition of Mr. Burns' "Principles," which we have met with in some foreign journal, that this experienced practitioner of midwifery thinks far less of its value in practice than its author.

In the fourth section, second chapter, Mr. P. treats of the nature and causes of the parturient action. We are able merely to say something of the causes. Mr. P. supposes that the head of the child, or presenting part, by pressing on the neck of the uterus, acts here as a stimulus, and that the consequent irritation is at length followed by the muscular contraction of the uterus, and the delivery of the child. He finds support for this opinion in the analogies furnished by the functions of the rectum and urinary bladder. The contents of these organs come in contact with, and stimulate their sphincters, upon which contraction takes place above, and the organs are evacuated. It does not, however, seem to us at all necessary, that the sphincters should be excited in order to cause contraction, for the fecal matter has been propelled through the whole canal, by muscular contractions above and upon them, produced by the contents themselves. Mr. P. has entirely overlooked a very important action in the series of occurrences in the progress of the intestinal contents, through the intestines. It is not merely necessary that contraction takes place in one portion of the tube, to propel them from above, but there must also be *relaxation* below, that they may be received into another portion, and if we are not in a great error, the last action in the series is a relaxation in the sphincter, in order that the lowest portion of the muscular structure of the rectum may act with success. We are supported in this opinion by the analogies of uterine action during labour. The state of contraction here, is attended by a simultaneous relaxation of the orifice of the uterus, and it is in this way only that delivery could be effected. We are not disposed to believe that the pressure or contact of the head of the child is the principal cause of uterine contraction. If it were so how could we explain the intermission of uterine ef-

forts, while the contact remains perfect, nay in its greatest degree, by the muscular contractions above; and how are we to explain that very curious fact, the occurrence of pain, and relaxation of the os uteri in extra uterine cases?

Of the Pathology of Parturition. This subject occupies the third chapter of Mr. P.'s work. After premising that human parturition, might be under proper circumstances a perfectly simple process, the author mentions the deviations from these circumstances which are at the foundation of every form of difficulty which may occur. These deviations are:

"a. Deviations arising from the state of the parturient energy.

"b. Deviations produced by mechanical obstruction to the expulsion of the uterine contents.

"c. Deviations arising from accidental circumstances."

The first division has four heads:

"A. The parturient energy although it evinces perfect uterine action, produces spasmodic pain in the organs of parturition.

"B. The parturient energy excites partial and irregular contractions of the uterine muscles.

"C. The parturient energy, instead of actuating the uterine muscles, excites actions of parts distinct from the uterus.

"D. The parturient energy is suspended, so that it ceases to actuate any part of the uterine or general system."

In the first head, we find a cause of the pain that ordinarily attends labour. Without this spasmodic action of Mr. P. we should have no pain. This opinion is supported by the author by arguments drawn from the analogies of other muscles. These sometimes are attacked by spasmodic pain. The heart escapes, though so perpetually in action. We might object to the doctrine, that whereas other muscles are very rarely attacked by spasm, and confessedly only when their actions are greatly disturbed, the uterus almost always is affected by it. Let the intervals of its contractions be never so easy and comfortable, the spasm is sure to recur. In the case of the uterus, farther, we are presented with this anomaly, the labour advances notwithstanding the spasm, and the rapidity of the case is in proportion to the violence of pain, or, in other words, the violence of the spasm. There are causes for the production of this state in the uterus, according to Mr. P., which do not exist in the case of other muscles. These are the resistance to be overcome by the uterine efforts, which may lead to over action, constituting the spasm, and "a morbid state of the constitution" of the organs of expulsion. The resistance spoken of is found partly, but in a very small proportion, in a rigidity of the os

uteri and other soft parts, and in an hitherto unexplained principle. The morbid constitution belongs to the uterus itself. We shall only say a word respecting rigidity, in this place, reserving the consideration of the new principle till we come to that part of the work in which it is fully explained.

The term *rigidity* has been applied to a state of the os uteri and external organs, in almost all periods of the art. In the cases in which this state is said to exist, the parts mentioned are found to be unrelaxed and firm, and where relaxation has occurred, it takes place partially, and in no adequate proportion to the distressing uterine efforts with which these cases are frequently accompanied. Mr. Power does not like the term, nor does he regard the state it is meant to designate, as a condition of parts of itself sufficient to do much to disturb the labour. He, nevertheless, continues the term, and dwells with some particularity on the state itself. We have never liked this term. It is calculated to mislead, by not conveying a true notion of the condition of organs in which it is said to exist. It does not express, the absence, or the imperfect performance of the functions of *living* parts. It may lead, and has led, to errors in practice. Now what is precisely the state of parts said to be rigid? Is it a sudden change or disturbance brought about in the progress or beginning of labour, disturbing this process, and exposing the patient to great suffering and much danger? If we are answered in the affirmative, we would ask how is it, that this artificial, mechanical state of a part, which may have continued for hours and days, suddenly disappears, and allows the delivery to be accomplished. Is it vascular fulness of the organs, and is relaxation prevented by a loaded state of the vessels? We cannot, on this supposition, account for the phenomena. It can hardly be owing to muscular contraction of the part, for there seems to be as little like the structure of a sphincter in the os uteri, as well can be. We have been, on these, and other accounts, long in the habit of regarding the alleged rigidity to be merely the condition of the part which exists in the absence of those functions on which parturition depends. The os uteri, for instance, when called rigid, is precisely in the state it has been in the whole of pregnancy. It is firm,—perhaps dry, or comparatively so, and thick. It has the same relations or bearings to gestation as it has had through the whole period, and all this while the womb itself, or neighbouring organs, are in a state closely resembling genuine labour, or in which labour has actually occurred.—It is not a state of things which has been suddenly or recently produced, a semi-morbid condition which may disappear in a moment, or in

which powerful constitutional means may be thought indicated for its removal. It is met with in cases in which *synergy* is wanting, in which the womb may be doing well in one part, while another, which should manifest correspondent functions, is perfectly quiescent. The notion of rigidity has led to practical errors. It has been attempted to overcome this artificial, accidental, state, by artificial dilatation, than which no method of treatment is liable to more abuse, or so truly hazardous. It is, however, perfectly justifiable upon the prevailing doctrine. In cases of this sort, and with these views, our first object has been to discover the causes of imitative labour, or spurious pains, should such be present, the second to remove them, and the third to quiet the disturbance they have produced, and which may continue after the removal of its causes. These remedies may be venesection, laxatives, clysters, emetics, opiates, the catheter, &c. according as it may be, that some disorder in the circulation, the bowels, stomach, urinary bladder, mind and nerves, &c., may have been the cause of the irregularity of the uterine functions under notice. These remedies having answered the first indication, our next object is to restore the system, or its parts, to rest. This is best done by narcotic or sub-narcotic substances. Opium has been found the most valuable in answering this indication.

In the second head, B., the author's object is to show that as muscles are merely connected bundles of muscular fibres, each of which fibre is capable of independent contraction, parts only may be contracted at the same time, and hence partial and irregular action of the whole organ be the consequence. The uterus being composed after the above manner, is liable to the irregularities alluded to. The author finds support for this opinion in the hour-glass contraction of the uterus.

The discussions under the third head, C., occupy a considerable space in Mr. Power's work. It is in this more particularly that Mr. P. has illustrated the new principle before spoken of, and in which he finds the source of the pain and difficulties attending labour. The parturient energy, according to the author, is that modification of nervous power, which influences the uterine muscles. It is the result of a determination of nervous power to these muscles, occurring at a particular period, or at a certain fixed development of the foetus and uterus, differing in this last circumstance from a similar determination which actuates the general muscular system. Instead of being determined to the uterine muscles, at the time of labour, and continuing to influence them, it may be determined from them to other parts. Hence the patient may suffer excessively, and appear to be in labour while the parturient energy, as it regards the uterus, is

not in operation. Now this forms the *metastatic action* of Mr. Power, and the metatasis of which it is the result, constitutes the *new principle*, which Mr. P. regards as the great causes of suffering and danger during parturition. The fact of metastasis having taken place in a given case, may be learnt by placing the hand on the abdomen during a paroxysm of pain. No contraction will be perceived in the uterus. It will remain soft and compressible, instead of being rendered tense and hard, as is the case under contraction. The state of the os uteri and connected organs will also assist the diagnosis.

We have thus endeavoured in a single paragraph to offer our readers a view of what occupies many pages in the work under notice. How far we have succeeded must rest with them to determine. This doctrine being the leading one in this work, it is perpetually referred to, and assists in the explanation of all the phenomena treated of.

We pass over much ingenious criticism, if not refutation, of the opinions of Dr. Denman and Mr. Burns, concerning the nature and kinds of uterine action; and go on to mention the practical application of the author's peculiar views on the subject.

"The metastatic action," Mr. P. remarks, "may first actuate the muscular system. The metastatic action, secondly, may produce increased actions of the arterial system." We make the following extracts, which furnish a view of the symptoms by which the first species of metastasis is characterized.

"The nature of the second variety of pain, or the sensations accompanying the translation of the paturient energy to muscular parts distinct from the uterus, will now be unfolded, together with the further consideration of that metastatic determination.

"The spasmodic actions, excited from this source, are attended by a high state of painful sensation, the expression of which is generally most acute, and is described by the patient as cramping, cutting, grinding, and rending, whence such pains have derived those denominations. The pains thus excited are of the most distressing nature, and are frequently evidenced by violent vociferation and gesticulation.

"A variation will, however, be occasionally found dependent upon the nature of the part to which the translation has been made; thus, if it is determined to the rectum or bladder, a degree of correspondent motion for their respective evacuations will accompany it, attended by a sense of expulsion or bearing down, whence such pains have often been mistaken for real uterine pains, both by the patient and accoucheur; so much so, that an idea has been entertained, until corrected by experience, that the head of the child has been undergoing expulsion.

"This connexion of acute pain, with the graver expression of the natus of the urinary or fæcal organs, is what has been mistaken,

as before noticed, for the succession or co-existence of dilating and expulsive action.

In the metastatic state it rarely happens that the pain ceases with the paroxysm, but remains partially after it has gone off; in bedside language it is said to linger, which it does more or less in the parts affected, which also retain a sense of soreness and tenderness, particularly when pressed upon.

"After the cessation of the paroxysm of metastatic pain, the patient will often fall into a state of unrefreshing slumber, from which she will awake frequently with starting, agitation, or anxiety; or she will be harassed by sickness or faintness.

"The metastatic state is attended by much anxiety and restlessness, and the mind is particularly depressed, anxious respecting the result, and forbodes danger. pp. 78—79.

We would ask before we close this part of the subject, how we are to explain the very curious fact, that the parturient energy when translated to muscular structures, which, according to Mr. P., resemble exactly the same structure in the uterus, should in them produce extreme pain, and be unaccompanied by any uneasiness in the uterus.

The following extracts contain the author's views in regard to the second species of metastasis.

1. "The metastatic action may give rise to simple and excessive determination of blood to the brain, occasioning

a. "A state of convulsion known as puerperal convulsion.

b. "A state of syncope or hysteria.

c. "It may give rise to febrile state." pp. 82—83.

According to the last head, D., the parturient energy is suspended. The causes of this suspension, according to Mr. Powers, are,

1. "The nervous power may be insufficiently produced.

2. "The nervous power may have been exhausted.

3. "The irritations of the uterine orifice, which should determine the nervous power to actuate the uterine muscles, may be insufficient to produce such an effect." pp. 84—85.

The third section treats "Of deviations produced by mechanical obstruction to the expulsion of the uterine contents." The author's plan has allowed him to give but very brief sketches of this important class of deviations from natural labour. He acknowledges that the subject has been so ably treated by other writers, as to leave him opportunity of doing little more than to make an application of his peculiar views to them. A synopsis of parturition closes the first part of this volume.

The second part is entitled, *Practical observations relative to parturition*. In this part the author follows his synopsis already referred to, and first treats of *natural parturition*. This is his

first class of labours. Genus I. is entitled, *Labour without painful action*. We extract the definition.

"The vertex of the foetal head presents; the paroxysms recur at regular intervals; during their continuance the uterus forms a tense contracted viscus; the uterine contents are at the same time pressed firmly downwards in the direction of the passage; the accompanying sensations are referable to the os uteri, vaginal passage, or contiguous parts, they do not amount to pain, but consist of a forcing or bearing down; the case terminates favourably within six hours." pp. 132.

Cases of this class are extremely rare, and present the phenomena of labour after their most favourable character. Class II. *Unnatural parturition*. This is a very extensive class. "It embraces every deviation from *Eutocia*, and, in all cases, requires or admits of adventitious assistance." p. 145.

Order I. "*Unnatural parturition, arising from derangement of the parturient energy*." We shall notice some of the genera attached to it. Genus II. "*Labour with painful uterine action*." This is thus defined:—

"The parturient energy produces perfect uterine paroxysms; the paroxysms are attended with *spasmodic pains of the organs of parturition*." pp. 147.

This genus embraces a considerable portion of common labours, including a majority of those which are denominated natural labours, which, though they differ from those of the first class, terminate favourably, or without any material deviation.

"As the spasmodic pain, which is characteristic of the present genus, has been considered chiefly to originate from increased resistance to the uterine efforts, produced by a tonic state of the resisting parts, or a want of disposition to dilate, it is worth while to consider how far this principle of resistance may be obviated by art.

"The removal of increased opposition of the resisting parts, may be attempted in three ways:—

1. "By diminishing the tone of the resisting powers.
2. "By increasing the force of the propelling powers.
3. "By superadding an artificial impetus in aid of the propelling powers." p. 149.

In the first case, relaxation has been attempted by topical relaxants, fomentations, v. s. purging and emetics. In the second cordials have been used. Mr. Power does not corroborate the opinion in favour of these methods of treatment which have been so frequently recommended by other writers. The third method for removing the increased opposition of the resisting parts deserves a moment's consideration. This method consists in the artificial dilatation of the os uteri or perinæum, according as either of these may be the seats of resistance. Writers are by

no means agreed on this point. Some of the most respectable reprobate it, while others say that under circumstances it may be safely and usefully employed. Among these last is Mr. Power.

"Artificial dilatation of the os uteri should be made with the soft and feeling surface of the point of the first finger, *steadily and forcibly moving* it around the circular rima, during the continuance of the paroxysms; care should, however, be taken that the pressure does not excite material pain.

"Under similar circumstances the same cautious dilatation may be used with advantage to the perinæum; in this case the operation will be best effected with two fingers.

"It is by no means intended to recommend the above for general practice, and when used, it must be effected with the utmost *caution and delicacy*." p. 154.

Of the propriety of this practice we have been always very doubtful; and it is one extremely liable to abuse. The temptation is very great in all tedious and painful cases, to adopt any plan for which good authority may be adduced. Little care is taken to distinguish cases, and to ascertain distinctly, whether in a given case the practice should be adopted. The method is thus very liable to become of general application, and this can hardly be without hazard.

The membranes are sometimes unusually thick or firm. It is doubtful whether this be owing to some peculiarity in their original structure, or merely in a want of disposition in them to stretch and become attenuated by the presence of their contained waters, forcibly pressed upon them by the uterine contractions. We quote the following, as containing the opinions of the author as to the steps to be pursued in these cases.

"There remains one circumstance to be noticed, which occasionally proves an exciting cause of spasmodic uterine action, and gives a necessity for more powerful and reiterated paroxysms; this is an unusual strength or thickness of the membranes, in consequence of which, their rupture, and the succeeding descent of the foetal head, is prevented.

"The obvious treatment is to rupture them. Some caution is necessary as to the best time of effecting this.

"The membranes should never be broken until the os uteri is well dilated, so that the septum between the uterus and vagina is obliterated, or nearly so; nor is it desirable to rupture them even then, if the protruding bag is found favourably descending with each paroxysm into the vagina, or upon the os externum, particularly in a case of first parturition.

"When, however the os uteri is well dilated, the evacuation of the liquor amnii, from allowing the presenting parts to be more

fully and forcibly applied to the uterine orifice, will generally increase the power of the uterine efforts, and materially expedite the expulsion. In rupturing the membranes, particular care should be taken to effect it during a paroxysm of uterine action ; otherways, the pressure being taken off from the uterine orifice, a degree of suspension will be produced." pp. 154—155.

Genus III. *Labour with partial uterine action.* Cases of this sort are very rare. Genus IV. *Labour with metastatic determination to muscular parts.*

"The paroxysm is unattended by contraction of the uterine muscles ; it affects muscular parts distinct from the uterus, exciting in them spasmodic, acute, grinding, or rending pain, and is generally succeeded with lingering pain or soreness continuing during the interval." p. 158.

General Symptoms. Cases in which metastatic determination may take place, may begin and advance under the most favourable circumstances, and then lose this character. This may occur immediately after, or even at the beginning of labour. Upon its occurrence an evident alteration may be observed in the patient. The uterus ceases to act, the progress of the case is checked, the mind is disturbed and the patient from being resolute and cheerful becomes desponding and depressed. Farther,

"As an axiom it may be laid down, that when a change takes place from uterine to metastatic action of the muscular kind, *et vice versa*, a change at the same time takes place in both the nature and situation of the accompany pain, hence it is of great importance to watch strictly the variations of pain ; if during the metastatic state it has been situated in the back, when a change takes place it will shift into the abdomen ; when it has been in the abdomen previously, it may change to the back ; but the most common and desirable change is, to find, when the uterine action is re-established, that the pain is referred to the region of the uterus itself, or of the pelvis, and is materially blended with the sense of bearing down upon the os uteri, or vaginal passage.

"It is characteristic, therefore, of the commencement of this metastatic state, that the pain accompanying the paroxysm is referred to a part which was not before affected ; it will be found to occupy more frequently the abdominal or lumbar muscles, and occasionally those of the hips, thighs, bladder and rectum ; but these points will be more fully considered hereafter.

"The nature of the pain also undergoes a material change ; it becomes exceedingly acute, is described as grinding, cutting, or rending, and produces every indication of extreme distress ; the unfortunate patient clings to her attendants for support, her features frequently becomes distorted, and she is compelled by unsupportable agony to loud vociferation.

"When, however, the bladder or rectum are affected, the above acute expressions of pain will be more or less mixed with graver tones, indicative of an expulsive or bearing down action, and which, in fact, arise from imperfect efforts of the above organs to expel their contents. Care must be taken to distinguish these efforts from uterine action, which they so much resemble as to have been heretofore described as evidences of that action.

"The parts affected are not merely thrown into a spasmodic and painful state during the paroxysm, but continue during the intervals of relaxation to suffer considerable uneasiness; the pains are said to linger, and the part affected remains remarkably sensible to the touch." pp. 161—162.

After an indefinite continuance of this state, the uterine powers may manifest themselves with their usual vigour, and the case be rapidly terminated. It sometimes happens, however, that metastasis may again occur, and artificial assistance be demanded.

Specific varieties. These are noticed by the author under the following heads or species.

1. Affections of the abdominal muscles.
2. Affections of the muscles of the back, or loins.
3. Affections of the hips and thighs.
4. Affections of the muscles attached to the sacrum or os coccygis.
5. Affections of the muscular structure of the bladder.
6. Affections of the muscular structure of the rectum.

The four first of these species are embraced under the general head of *affections of the external muscles*, the two last under that of *internal muscles*. In the first class the pain is of the acute character already mentioned in our quotation; and in this, a lingering pain in the intervals of paroxysms is observable. The *internal muscles* include the bladder and rectum. In addition to the common suffering in these cases of metastasis, we have, in the bladder affection, the sensation peculiar to this organ when distended, and an increased desire to effect its evacuation. This may be partially accomplished, but generally the effort fails.

"The present affection is generally productive of great distress and retardation; the painful feel of want to make water, during the paroxysm, with inability to discharge it, being excessive. On applying the hand above the pubes, the bladder will frequently be found distended, but not always so, as the position of the child may occasionally press it from its natural situation, into a lateral direction; pressure above the pubes will detect great soreness of the part affected, and also produce, or increase, the want of eva-

uation, in the same manner as it does under a distended bladder, in a state of health.

The muscles of the urethra and sphincter will participate in the affection." p. 169.

If the rectum be the organ to which the determination has taken place, we have a sense of fulness here, and great desire to effect an evacuation. The attempt is rarely effectual.

Of the causes of metastatic determination to muscular parts.—Mr. Power thinks this subject very important, and deserving a more detailed investigation than he has bestowed on many others. He divides these causes into

1. Proximate.
2. Predisposing.
3. Exciting.

We shall make a short abstract of what he says of the last. He classes the existing causes under two heads.

1. Irritations applied to the body.
2. Irritations affecting the mind.

Of the first are uterine, vaginal, visceral, vesical, and accidental irritations. Of the uterine, are over-distention of the uterus; irregular form of the uterine contents; improper position of the foetus; plurality of children; the motions of the foetus; thickness or rigidity of the membranes; premature rupture of the membranes; rigidity of the os uteri (doubtful); relaxed state of the os uteri; inflammatory state of the os uteri; diseased state of the os uteri; obliquity of the os uteri. Of vaginal irritations, are first rigidity and stricture; inflammatory and diseased state. Of the visceral irritations. These regard the *ingesta* and the *egesta*. Of the former are indigestible substances, whether positively or relatively so; of the latter are acrimonious excretions, or accumulations in the general canal, or in the rectum particularly. Vesical irritations are found in distentions of the urinary bladder and calculus. Among accidental irritations, Mr. Power enumerates external heat; external cold; confinement of the patient too long in bed; the improper use of spirits, cordials, opium, &c.; expulsive efforts excited by the patient with the view of forwarding the labour; falls and accidents. Of mental irritations, we have the exciting and depressing passions.

Following the exciting causes, we have the *prognosis* and *diagnosis*. The former must be cautious. The case may continue many hours or many days, and there are no certain means of a very precise opinion. Of the diagnosis, we shall say nothing here, having offered so full a view of the history of the several deviations noticed by Mr. P. that further remarks would be little more than a repetition of what has been already said.

Of the treatment of metastatic determination to muscular parts. This forms the 9th section of the 6th chapter, of the second part of Mr. P.'s book.

"The indications of treatment, which naturally present themselves, are threefold :—

1. "To effect the removal of the causes of the metastatic state.
2. "To obviate the effects of those causes ; or, in other words, to relieve the spasmodic affections which are excited by them.
3. "If the above indications should be disappointed, to produce a temporary suspension of the case, in expectation that the ensuing efforts may be of the proper uterine kind." p. 204.

Of the causes of the metastatic state, many are beyond our controul, such more especially are the predisposing causes. The same may be said of some of the exciting causes, and even of those which we may obviate, it not unfrequently happens their injurious influence may survive their removal. Of the existing causes which cannot be obviated are irregular pressure of the contents of the uterus upon its parietes or orifice, and the motions of the fœtus. Mr. P. suggests a remedy in the last, but it is doubtful, and the cause must be of so trifling a nature, and the remedy is so liable to improper application, that it is unnecessary to notice it. The thickened membranes must be ruptured, if as we have suggested the thickening be preternatural. We shall not go over each of these causes separately, for a majority of them the treatment is well known. In obliquity of the os uteri, Mr. P. recommends that we should attempt to reduce it to a more favourable position. In this he follows the practice of Daventer, who wrote a book on the subject. Dr. Wm. Hunter, however, as good an authority, in his manuscript lectures before us, recommends to trust the reduction to the efforts of the womb, as preferable to any manual assistance. Mr. P. bestows very properly, particular regard to the state of the bladder and rectum in these cases. If these be neglected in the cases in question, the immediate sufferings of the patient cannot but be greatly enhanced, and she incurs the hazard of one of the most distressing conditions incident to the sex, we mean, incurable incontinence of urine.—We quote the author's remarks on the use of opium.

Opium.—"The powerful effect of opium, in the removal of spasmodic pain, is well known ; and the use of it, in the present case, is, without doubt, beneficial, and, in protracted parturition, it has been, for a length of time, deservedly extolled. It appears to be particularly useful, where the spasmodic affections are not so situated as not to admit of the application of the external anti-spasmodics ; as for instance, in affections of the internal lumbar or psoæ mus-

cles, and other deep-seated spasmodic actions of the intestinal canal, gagging, &c. ; in such cases it should not be given in larger doses than thirty or forty drops, which may be repeated according to its effects ; if larger doses are administered, a risk is incurred of inducing suspension of the parturient action." pp. 217—218.

We are disposed to agree with the author in these views. We have employed opium in protracted labour with very good effects. We have given it to procure sleep by suspending ineffectual labour, but have not unfrequently found its exhibition to be followed by effectual labour and speedy delivery, and this without the intervention of sleep. This subject is merely glanced at here, as it is intended in some other work, or in another number, to enter fully into its discussion. Bloodletting as tending to remove spasm, and as applicable to the cases under review, has not been found as beneficial by the author, as by others, particularly midwifery practitioners in this country. From our own observations on this point, we are strongly disposed to coincide in opinion with Mr. Power.

Of external antispasmodics Mr. P. enumerates embrocations ; fomentations ; injections ; warmth ; pressure, and friction. We shall notice only the two last. *Pressure.* In a former number of this Journal* a short notice on the use of abdominal pressure in obstetrical practice, by W. Marson, Surgeon, was extracted from the London Medical and Physical Journal of the same year. From this paper it appears very clearly that Mr. Marson first suggested this improvement in midwifery practice. Mr. Power also recommends it. The pressure may, according to him, be made by the hand, or by a napkin, expanded over the abdomen, and tied tightly round the back. This method is, in our opinion very justly reprobated by Mr. Marson. When thus used, an insuperable obstacle is placed to that salutary relaxation which takes place in the interval of pains, and which can only be wanting in a spasmodic or diseased state ; and what is more, it is hardly possible so to adapt the pressure to the exigencies of the case by a bandage, as to derive from it a beneficial influence. Pressure by the hand, as recommended by Mr. Marson, has been tried by physicians here, both before and since his paper, and with good effects.

Friction. In proposing the employment of friction for the relief of protracted parturition, Mr. Power hopes he may without presumption, assert a claim to originality. We have not room to enumerate the advantages to the patient and practitioner, which Mr. P. has found to attend the use of friction. We

* See Vol. 8th, for 1819. p. 271.

can only say that much time and great suffering have been saved by it, and we know of no better recommendation that it could come to us with. It is true the practice rests solely on the authority of Mr. Power, but we have seen nothing in his work to render us incredulous as to his statements on this point. The following quotations will furnish the reader with the best method of applying friction as stated by Mr. P.

"The better mode of applying it is with the ends of the fingers, applied together so as to form the segment of a circle, and moved over the part to be rubbed, in much the same way as the sound is elicited from a tambourine; this must, however, be done with great celerity, making from 130 to 150 motions of the hand in a minute, and, at the same time, with such degree of pressure as will produce considerable warmth and glowing feel in the part. The application should be made to the skin itself, and not through the medium of clothing, and must be vigorously kept up in the above described manner, and extended with rapidity over the part affected, and, if the spasmodic action should be found to vary its situation, it must instantly follow it.

"Notwithstanding it may appear to have produced its full and decided effect, the friction must be persisted in for some time, as it will not unfrequently happen, that, when discontinued, the metastatic action will return; at least it must be occasionally repeated, particularly if any variation in the nature or seat of the pain is observed.

"If the state of soreness is considerable, the friction must be cautiously commenced, only a slight degree of pressure being at first used, according to the sensations of the patient; this must gradually be increased, and it will be found, that, in proportion as it proceeds, the soreness will be diminished, until its full force can be sustained without inconvenience.

"In order to perform the operation with comfort to the accoucheur, the bedclothes and dress of the patient should be arranged so as to offer the least possible impediment; for it is singular how immediately the arm tires if any obstacle is opposed to it; the position of the patient must be regulated by the part requiring assistance, and will generally be obvious: to make the application to the abdomen, she will conveniently lie on the back, but the usual position on the left side will generally be found most convenient. It may be remarked as an useful fact, that the part on which the patient lies is very rarely affected by the spasmodic state, in consequence of the pressure and support given to it. pp. 232—233.

The next chapter 7th, is headed, Labour with metastatic determination to the arterial system, and includes labour with convulsions; labour with faintness and hysteria, and labour with fever. The eighth chapter treats of Labour with diminished

production of the parturient energy; the 9th, of Labour with exhaustion of the parturient energy; and the 10th, and last, of Labour with defective irritation of the os uteri. A short appendix of cases closes the volume. We have thus given a pretty close analysis of the *New Principles* of Mr. Power. The temptation to theorize offered by the plan of the work has not been resisted, nor has it been indulged to the exclusion of useful practical remark. Whether the leading notion of the author as to the origin and character of protracted and painful labour be admitted or not, it must be conceded to Mr. P. that he has laboured industriously and with much ingenuity, to give a distinctness to a subject which was sufficiently vague; and has added rational and new authority to methods of practice, which have in many instances been blindly pursued, and with an imperfect reference to the distinctions of cases. With these views we should hardly have done our duty to our readers, had we dismissed this volume without at least as full a notice as we have now offered of it.

DR. MERRIMAN'S work on Difficult Parturition has been lately called a *classic* in medical literature. This work is strictly confined to the subject of labour. From the title one would be led to think that it was devoted to labours of one class merely; on the contrary it embraces the whole subject, and contains the result of a long and industrious observation and experience, in relation to every thing interesting in the practice of midwifery. To the student, and especially to the young practitioner, this volume is of great value. Its arrangement is simple and clear, and admits of the easiest reference. On the management of labours, and on the conduct of the practitioner, the doctrines are highly judicious, and illustrate very happily the effects of an extensive practice, and of a wide and varied intercourse with society upon the mind and feelings. The first editions of this work were very favourably received, by the medical public, and this last has new claims on its favourable regards. The work has undergone an entire revision, and useful additions have been made to the original. What particularly distinguishes it however, is an appendix nearly equalling the body of the work. This part is extremely valuable. It consists of cases which have either occurred in the practice of the author, or have been industriously collected from the best authors, or obtained from respectable friends. The object of this appendix is to illustrate the various species of labour treated of in the main part of the work, by the cases it contains, and the effect is to demonstrate the possibility of the occurrences before dwelt

on by a direct appeal to positive fact. It is not our purpose to make an analysis of this volume. An edition of an earlier English edition of Dr. Merriman's *Synopsis* appeared here from a very respectable source in 1816.* This contains notes and additions by the American editor. It may perhaps be regretted that this edition appeared so early; but it was well to have in circulation here the less valuable work, when the appearance of a more important one by the same author was uncertain; and in this view Professor James has performed a very useful service. The plates form an useful addition to the American edition. Dr. Merriman has added plates to his last edition. We abstain from an analysis of Dr. M.'s work from the same motives which influenced us in the case of Dr. Denman's *Aphorisms*. It has been long before the public, and we have an edition of it already from our own press. That at the head of this article has received additions from the author, but these as was said, consist principally of cases, and of these it would be impossible to give any very useful account in the narrow limits we might now allot to them.

Dr. CONQUEST's *Outlines of Midwifery*, is a new work. It forms a duodecimo volume of 193 pages, and contains twelve lithographic engravings. The *Outlines* have been published professedly with a view to supply a want long experienced, of some short companion to practice,—some work of easy reference, and which should contain at the same time much, or all that is practically useful. It is a mere *outline*, offered to the *student*, and young practitioner. We should doubt the expediency of giving such works to readers of the first class. The fewer inducements offered the student to attempt to acquire professional knowledge after a compendious manner, or in a short time the better. What is general, and comprehensive, must to him be obscure. He needs the details, the facts of which such works are the result, for it is to these he is to be daily called in the routine of his profession. He must contemplate things in parts, for he has no eye for the whole: and it is a salutary labour for him, which requires much time, much patient study, and which can be faithfully accomplished, only by very careful attention to the minutiae of his subject. With regard to midwifery it is peculiarly important that the student should acquire the fullest knowledge of which the case is susceptible. The occurrences

* A synopsis of the various kinds of Difficult Parturition with practical remarks on the Management of Labours. By Samuel Merriman, M. D., &c. &c. with Notes and Additions, by Thomas C. James, M. D., Professor of Midwifery in the University of Pennsylvania. Philadelphia, 1816.

in its practice which impose the greatest responsibility, and demand the best exercises of judgment, are frequently sudden, and involve much hazard. These are as likely to occur to the young practitioner as the older, and it may be, from previous mismanagement of a case, that he has assisted to induce them. Much is required in such circumstances, and this can be done only by well grounded knowledge, and due reflection on the opinions and practice of standard authors as recorded in standard works. Dr. Conquest has guarded against a misuse of his work by its title, and in its preface, and it is only on account of its recommendation to students, that we have been led to make these observations. The author farther assures us that his book is not original, that it is a new form only of what has been long known, and meant to supply a deficiency in the means of education. With the older works of Denman and Merriman, the *Aphorisms* and *Synopsis*, we confess we are not sensible of such deficiency, and that the principal value to us of such a work as the outlines, would have been found in its original views, or the better light in which it might have placed long known truths.

From the examination we have made of Dr. Conquest's work, we should rather regard it as a syllabus, or text book to a course of lectures, than as a mere manual to practice. About one third part of the volume is filled with short anatomical and physiological sketches of the parts and functions relating to midwifery, and there is a popular character given to the style of the practical parts, which inclines one to think they were rather intended for an audience, than for the privacy of study. It contains however much that is useful. It could hardly have been otherwise that it should be so, for its plan embraces, general views of every thing relating to midwifery. Dr. C. has farther added to the value of the Outlines, by giving occasional references to the best works on important subjects in midwifery.

Dr. Conquest has made some alterations in the shape of the forceps used in midwifery, and has given a plate of his improved instrument. His forceps have only a single curvature, the blade being on a line with the handle, and the *fenestræ* are wider than Smellie's or Hamilton's instruments. In these respects it agrees with Dr. Haighton's forceps. It differs from this in having its shoulders narrower, and except in length, is less in all its dimensions than the last. It especially differs in being curved in the intermediate part between the blade and handle or shank. This the author regards as its distinguishing feature. The advantage of this curve is that it allows the handle to be directed well towards the perinæum, without danger

of laceration, in those cases in which it is necessary to direct the points of the forceps forwards to the pubis; such particularly is the case when the face is towards the symphysis pubis. It seems clear that the curve in these cases would be advantageous, and yet we do not recollect that the perinæum has particularly suffered in these presentations, when the common instruments have been employed. The curve in this instrument reminds us of the same thing in the double curved craniotomy forceps of Dr. Davis, which has the same object in view precisely with Dr. C.'s forceps; and it strikes us rather as a new application of the principle first noticed by Dr. Davis, than as a discovery of our author. Dr. C. also offers an improvement on the craniotomy forceps, the object of which is to render the instrument more simple.

Rupture of the uterus. "The cause of this mournful occurrence" says Dr. C. "is very obscure, unless the general explanation of *powerful action with unusual resistance* be admitted as satisfactory." Another explanation has been offered on this occurrence, which is ingenious, and supported by some of the circumstances connected with rupture. According to this explanation, rupture of the uterus depends on that state of this organ which is constituted by a powerful contraction of some part of it, while another is quiescent, or in a relaxed condition. This idea is supported by the facts, that the neck of the womb is the part which is most frequently lacerated,—that this part is relaxed while the body of the organ is contracted,—and that the state of muscular relaxation is one of comparative weakness. Now if rupture occur in any other part of the uterus, we may find for it a similar cause, a powerful but irregular contraction of a great portion of the organ, while the rest remains relaxed. This opinion is farther supported by the suddenness, unexpectedness, of the accident; and the violent local pain, produced by excessive contraction, which so generally immediately precedes it.* In the treatment of cases in which the uterus is ruptured, Dr. Conquest, after mentioning various means, recommends in their failure the *Cæsarean operation*. This operation strictly consists in a section of the abdomen and uterus, in order to remove the uterine contents which cannot pass through the natural passages. In cases of rupture of the womb, in which a section of the abdomen may be judged proper, the section of the womb does not come under consideration, as by the case supposed, the child would already have escaped from the uterine into the abdominal

* Vid. Mr. C. Bell's paper on muscularity of the uterus, in the *Medico-Chirurgical Transactions*.

cavity. It is by no means uncommon, however, to find the Cæsarean section recommended where gastrotomy only is required. Very few writers distinguish them. Some distinction, however, is proper. The steps in these operations are not the same, and their results may be very different. It is highly probable, that gastrotomy will be found less fatal than the Cæsarean section, especially if performed soon after the accident, in cases in which success can be hoped for from no other means. It should not, therefore, be deferred in such cases as a last resort, and until the failure of every other means, questionable as many of them are, and involving an increasing hazard by the delay they impose. The reasons for believing that gastrotomy may be more successful than the Cæsarean operation are found in the circumstances under which rupture may take place. These may be an early period of the labour, the patient's strength remaining good; no obstacle existing to delivery in the pelvis or child, and hence no disturbance present in the functions of the bladder and rectum, from mechanical pressure; finally, no general disturbance of the system, which so frequently arises in protracted labour. If, on the other hand, the case have been protracted, and rupture have taken place, there is in this case a better chance of the patient's doing well under early gastrotomy, than after the other operation as usually performed. This last rarely comes under contemplation until dangerous exhaustion has taken place, even in cases in which impracticable labour was foreseen at a very early period of the process. The use of a common name, therefore, for these operations, which are performed under different circumstances, and for the most part for different reasons, is an evil, since it gives one of them, which in some cases is the only operation which promises any success, the character and estimation of the other, which in England at least has been with but one exception fatal.

The case referred to is ruptured uterus, in which the child has escaped completely into the cavity of the abdomen; and in which contraction has so far taken place in the uterus as to preclude the possibility of reducing the foetus to its original situation, and of delivering it through the natural passages. Another case of rupture, imposing a similar necessity, is that in which the capacity of the pelvis is so far diminished as to render it physically impossible to deliver, even though the child should be again returned into the uterus, and its head diminished as far as it is practicable. We do not advert to other cases, but when it is recollected how fatal rupture of the uterus has been,* as well where the child has

* Dr. Ramsbotham says he has seen numerous instances of this accident, and that every case which he has seen has sooner or later been fatal.

been immediately delivered, by being forcibly drawn back into the uterus and then through the pelvis, or where it has been left in the cavity of the abdomen, does not the operation of gastrotomy deserve an earlier trial than has yet been made of it? How can any success be looked for from it, after an useless waste of time, and after fruitless and violent efforts have been long persisted in, to force the child through the natural passages? The child at least has an interest in the decision of these questions. If it be alive at the moment of the accident, and the state of the pelvis, or the degree to which it has escaped from the uterus, be such as to render its forcible delivery a long and violent process, it must certainly be destroyed by such process; whereas, by the operation on the abdomen, its life may be saved. The argument from the chance of saving the child derives its chief weight from the great fatality which has followed rupture of the uterus under the ordinary treatment, and authorizes an attempt by a serious operation to increase these chances, which might not be justifiable, were the event as it regards the mother less doubtful. The operation deserves still more serious consideration in view of the probabilities of a more successful issue in relation to the mother, were its performance more easily decided on. This whole subject has been very fully and very ably examined by Dr. Dewees in a paper in the *Philadelphia Journal of Medical Science*, and to this paper we particularly refer our readers. From all the facts which have been collected on this subject, one inference at least may be regarded as established, that in all those cases of rupture, in which turning can be accomplished without a demand for such violence as in itself may be fatal, turning should be practised. When turning cannot be accomplished, or not without such violence as must necessarily be fatal, the woman must be left to die undelivered, or the section of the abdomen must be practised. As far as we have been enabled to investigate the subject, the only chance of life seems to be placed in the operation. From the numerous cases on record, in which large incisions into the cavity of the abdomen have been made, and from which patients have recovered, we cannot regard gastrotomy in the cases in question, as by any means necessarily fatal; and it does appear to us, that the injury inflicted by it, cannot be compared with that, which violent attempts to reduce the child into the partially contracted uterus, must necessarily involve. Midwifery writers speak of the horrors of the operation. But were the object is so great as the life of the individual, the means are not to be neglected because they are appalling. We remark in conclusion, that if the operation is to do good it should not be delayed. That can never be accounted rashness which

is the result of a deliberate reflection on the whole case, and which is done at the only moment at which any good could have been hoped for from it.

We pass over for the present many interesting points of practice, which are noticed more or less in detail in the "Outlines." Dr. C.'s plan has confined him to short sketches only, in many instances; and we reserve what we have to say about them, till we take up the more extended work of Dr. Ramsbotham.

Dr. Granville's Report on Midwifery is placed on our list, not because we mean to analyse it, but because it is among the later works on the subject of this article. Its contents may be learnt from the title. It is not a mere history, however, of the practice of midwifery at the Westminster General Dispensary for 1818. It contains what the author has before said elsewhere,—much that is new, and much that deserves the attention of the profession. It was the misfortune of this work to appear before the public in a *red* cover, and the reviewers have not spared the "*red book*." Dr. G. has introduced a defence of his "Report" into his late work on the prussic acid. He denies in this work the charges of the Journalists against the "Report;" and contends with no want of spirit, that his classification of labours, of the diseases of children, &c., are not without their uses, and deserve a respectful notice. The classification of labours is certainly not complex. Labours are divided by Dr. G. into two classes; active, and passive. This new and simple classification was established by the author while preparing a course of lectures, and he finds it to answer his purpose perfectly well. Under the first, Dr. G. comprehends labours which are terminated by nature alone. Under the second, those cases which require artificial assistance. He disputes the doctrine that abortion is most frequent in the higher or luxurious order of females, and contends that it is as frequently met with in the lower. A methodical classification of miscarriages follows. Dr. G. denies the old notion, that a child cannot live which is born before having completed its seventh month of utero-residence, and adduces cases in his own practice which disprove it. Now it is no where contended, that the child cannot *live* when born at an earlier period than the seventh month. It has however been shown pretty conclusively, that it cannot be *reared* when so born. There is, therefore, a propriety of designating the labours which may be induced just after this period, in cases of such deformity of the pelvis, as will not allow the child to be born alive at the eighth or ninth month, by some particular term; one for instance, which shall express a species of labour, which essentially differs from an abortion; and such is *premature* labour which Dr. G. thinks so ridiculous.

Dr. G. has discovered that in a given number of pregnancies, and during a determined period of time, that the number of miscarriages is less in Paris than in London. He attributes this to the better management of labours in the former place. We are not entirely satisfied with this solution, and are inclined to think if Dr. G.'s calculation be correct, that the difference may be found in the different habits or modes of life of the lower classes of females of the two capitals.

The classification of labours by Dr. Granville has been mentioned. We give the following extracts from the section on *passive labour*, which will give the reader a notion of the whole work, and in which, according to the author, is contained a complete system of midwifery.

“*Passive Labours.*—Parturition is a problem in mechanics : a body is to be put in motion ; a moving power is given ; and there is a resistance to be overcome. Whenever the relation in which each of these three points of the problem stand to one another is in such a ratio, that no movement or motion can be produced—the labour is at a stand.—Nature can do no more ; she requires the assistance of art. This constitutes what I have called *passive labours*.

“As the problem which is thus presented to the accoucheur for solution, consists of three distinct parts ; it follows, that as each of these may prove defective, three distinct orders of passive labours will occur, namely,

“1st, When the body to be put in motion, F. (fœtus), is so placed, that the moving power, U. (uterine contraction), applied to it, is insufficient to make it change place ;

“2dly, When the resistance, P. (pelvis), to be overcome, is greater than the moving power, U ;

“And 3dly, When the moving power, U, is not equal to displace the body to be put in motion, F.

“In the first case, we resolve the problem *manually*, by placing F. so that either U, or our assistance, shall terminate the labour.

“In the second case, we resolve the problem *instrumentally*, by overcoming the resistance, P., or by modifying the body to be put in motion, F. ; and finally,

“In the third case, we can sometimes resolve the problem *medically*, by adding to the moving power, U ; but are, more commonly, obliged to terminate the labour either manually or instrumentally.

“Under these three heads, every species of labour, probable, or improbable, recorded by different authors, is naturally classed without any exception. There are circumstances occurring during labour which may, at first sight, appear irreconcilable with the above division, such as convulsions, syncope, and hæmorrhage ; but these are simple complications of the problem to be resolved. They do not, in the least, alter the problem itself ; and merely call for its immediate solution. This is no figurative language ; and in the preceding few lines is contained the whole art of midwifery. Add

to it a quick perception of the nature of the problem presented to us for solution, when we are called upon to give assistance in passive labours; and a cautious, as well as dexterous application of any of the three means we have it in our power to use in such cases, and the qualifications of an accoucheur are fully enumerated. The description and classification of the problems are to be learned in schools, and by attending lectures;—but their quick perception, and dexterous solution, *cannot* be learned at lectures, and are only the effects of *practice*." pp. 94—97.

The review of the excellent practical treatise of Dr. Rambotham will appear in another number.

ARTICLE XIII.

Medico-Chirurgical Transactions. Vol. xi. Part 1.
London, 1820.

THIS volume contains, among other papers, five which relate to urinary calculus. The first is a *statistical inquiry into the frequency of stone in the bladder in Great-Britain and Ireland*, by R. Smith, Esq. The character of this paper, and the closeness with which it has been adhered to, makes an analysis of it almost impossible. It appears that in some counties the disease has remarkably decreased of late years, while in others the increase has been as striking. It farther appears that in some districts, calculus is very common, while in others it is hardly known. An inquiry into the causes of these varieties in the occurrence of calculus, did not fall within the design of the paper. In its practical bearings this part of the subject deserves very careful investigation, and the industry and skill with which Mr. Smith has pursued his statistical enquiry, lead us to hope he will give it the attention it deserves.

The second article is a *successful case of Lithotomy*, by C. Mayo, Esq.—C. Gilbert, the subject of this case, was in his 28th year when admitted into the hospital of Winchester. He had been sounded 20 years before, and a stone was detected in the bladder. From the time that had elapsed, and the violence of the symptoms, it was inferred that the stone had acquired very considerable magnitude. The operation was performed on Thursday, 3d December, 1818, after the following manner:

“I performed the operation of lithotomy, with a common scalpel, as is my constant practice, after the manner of Cheselden, and I made a large and deep external incision, and then cutting into the side of the prostate gland, as far back as I could reach, I brought the knife out along the groove of the staff into the membranous

part of the urethra. I then readily passed my finger into the bladder and touched the stone ; but finding it to be very large, I took a probe-pointed bistoury, and dilated the wound in the neck of the bladder. I then introduced the forceps, but found that when dilated to the greatest extent, they were hardly capacious enough to grasp the stone, in consequence of which it repeatedly escaped from my hold. At length, after many very forcible attempts in which I was assisted by one of my colleagues, Mr. Wickham, I brought the stone to the verge of the lower opening of the pelvis, and held it there securely by the forceps when Mr. W. passed a strong iron scoop under the arch of the pubes, which acted as a lever to prevent the stone from slipping out of the forceps, and assisted in its extraction. By the combined action of these instruments, applied with all the force we could exert, the stone fortunately broke into several large fragments, which I then readily extracted. A considerable hæmorrhage followed the first incision, but it was very trifling after the urine began to flow from the opening into the bladder, which it did, in large quantities. The stone was in its texture very compact, but when broken, a sort of nucleus of rather a lighter colour and about the size of an apricot stone, fell out as from its centre. The whole when united and accurately replaced, which was easily done by means of a little glue, weighed fourteen ounces and two drachms avoirdupoise weight ; it measures eight inches and a half in its smallest circumference, and rather more than ten in its largest.

"I accomplished the first steps of the operation, as far as led to the opening into the bladder, without any difficulty, but the extraction of the stone occupied more than half an hour ; the wound in the bladder was dilated by means of the bistoury to such an extent, that I believe the stone, large as it was, came out without any laceration, it was several times brought completely into the perineum, and was only obstructed in its exit by the rami of the ischia and pubes." pp. 55, 56.

The symptoms, subsequent to the operation, were very severe and complicated. The wound did well, but the constitution had been so much shattered by previous suffering, that much disease incident to the operation in his case, took place. The stomach and bowels were most disturbed.

"Since the removal of the stone, which is now more than nine months ago, he has enjoyed an entire freedom from pain ; and notwithstanding the many drawbacks which his enfeebled constitution has sustained, I have every reason to believe that his recovery will be ultimately complete.

"Sept. 20th. The wound will hardly admit the passage of a probe, but his dyspeptic symptoms and occasional diarrhœa still harass him, and he has lately had a good deal of pain, with a throbbing sensation in the loins ; he has also now and then a painful attack of dyspnœa."

The third paper is a *Case of Lithotomy*, by *W. B. Dickinson, Esq.*—The subject of this case, T. Clayton, was aged 62, and had laboured under the disease 30 years. The urine deposited a purulent sediment; very little water could be retained.

“Upon the introduction of a common sized sound, a firm stricture was discovered at the membranous portion of the urethra; and a smaller having been passed, the point of the instrument, immediately after clearing the prostate gland, struck against a stone which completely prevented its further progress into the bladder. The point of the sound being retained in this position, the finger was introduced into the rectum where the outline of a large and hard tumour could be distinctly traced. From this examination it became evident there was a stone in the bladder of very unusual size; and considerable surprise was excited that the alimentary excretions could be passed in a solid state. On pressing upon this tumour the patient experienced very acute pain, much exceeding in degree that which had been occasioned by the introduction of the sound. The perineum had been extensively lacerated in early life, the wound having extended to the urethra. A fistula in perineo was the result of this accident, which continued some time. The cicatrices were in a state nearly approaching to cartilaginous hardness; from this period the patient dated the beginning of his disease.” p. 61, 62.

The considerations presented by this case were, first, whether it was proper to operate at all; second, which of the several operations should be performed; and lastly, the instruments to be used. It was determined in consultation to operate; to adopt the lateral operation, and to use the knife employed by the late Mr. Gibson. The operation was performed 1st May, 1820, after the following manner.

“The patient being secured in the usual manner, the staff was introduced and firmly fixed with its point upon the stone; an incision was now commenced an inch or more above the anus, and continued to the extent of full three inches and a half; the parts were divided with much difficulty; indeed this part of the operation was necessarily tedious. From the indurated state of the perineum the staff itself could not be felt, and much care was therefore required to effect an opening safely into its groove. The knife being at length properly fixed in the groove of the staff, it was carried forward through the prostate gland; but here its further progress was arrested by the beak hitching upon the stone. The advantage of the knife over the gorget was now manifest. At this period of the operation, the gorget would have been useless, or it is probable might even have slipped between the bladder and the rectum. It became necessary to leave the groove, and finish the incision by directing the edge of the knife first slightly upward, then obliquely downward and outward. The stone could now be easily felt, and seemed to

be equal in size to the globe of a large goblet; the forceps were introduced, and broke off a projecting portion of stone; by repeated efforts other pieces were detached, but still the bulk of the concretion was not materially reduced, and the application of the stone-breaker was impracticable, (although the incision was enlarged to facilitate its application) on account of the impossibility of including the stone in its grasp. At this moment I recollected having seen it recommended in a manuscript copy of Mr. A. Cooper's Lectures, to perforate the stone; it was suggested also by one of my colleagues to fix it by a blunt midwifery hook to prevent its recession. By this means with a common small chisel the calculus was broken into fragments, and the pieces extracted. The bladder was then washed out by repeated injections of tepid water. I could now feel the bladder perfectly smooth and free from particles of stone. Faint and languid, with his pulse scarcely perceptible, his extremities cold, and his face bedewed with clammy sweat, the patient was put to bed, and forty drops of laudanum administered in a little brandy and water. The fragments of stone collected and washed, weighed eight ounces and a half; besides which the surgeons present were decidedly of opinion that two ounces and a half were lost in scrapings and grit washed out of the bladder. The shape of the calculus, as far as could be ascertained during the operation, was globular. The composition of it appears to be chiefly phosphate of lime. It would afford but little interest to relate here the detail of the after-treatment, it will be sufficient to state that the inflammatory symptoms never rose so high as to require general blood letting; but there were some events subsequent to the operation which may deserve notice as arising immediately out of the peculiar circumstances of the case. On the 12th day afterwards a slough was perceived between the lips of the wound, which upon removal was found to be thickly studded with gritty particles. From this period to the 31st of May, the 30th day after the extraction of the stone, sloughs of considerable size were frequently removed from the wound; several of which were smooth on one side, and gritty upon the other. This led to the suspicion that the rectum was sphacelating, although no fæces had as yet been passed by the wound nor any urine with the stools. On examination by the rectum, a small orifice was discovered sufficient to admit the point of the finger. No water had been passed since the operation naturally, which induced the belief that the bladder, kept upon the stretch continually by the calculus, had lost its tone. This opinion, the subsequent condition of the patient decidedly confirmed. In the middle of June fæces in great quantity passed through the wound, which still continued to heal up slowly; nor was it till the second week of July that this distressing symptom finally ceased."

This patient recovered.

Vol. X.

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Remarks on the danger of extracting large calculi, with the description of an instrument intended to facilitate the breaking down stones of considerable magnitude. By Henry Earle, Esq. Mr. Earle has collected together in this paper a great number of cases in which the largest stones have been extracted, which are on record. "Without citing any more authors," remarks Mr. E., "it will be sufficient to state, that as far as my researches into this subject have hitherto led me, very few instances of success are recorded where the stone exceeded seven or eight ounces." In view of the fatal effects of the operation in large calculi, Mr. Earle has offered the profession an instrument by means of which the stone may be broken, and its several portions afterwards separately extracted. A plate and description of this instrument may be found at the end of the volume.

The fifth paper in this connexion is the last article in this volume of the Transactions. It is on *Renal Calculi*, and is also by Mr. Earle. In this paper Mr. Earle endeavours to show, in opposition to the opinion of Dr. Marcet and others, that in some instances at least it is probable that the formation of calculi may depend on a local action of the kidney, independent of any predisposing constitutional cause. Cases are adduced in support of this opinion. The doctrine of the prevalence of a lithic diathesis in those cases in which the lithic acid abounds is questioned on the ground, that one kidney is not unfrequently found free of disease, while the other manifests extensive lesions, and is more or less occupied by calculi. If the disease has its cause in the blood, there appears no good reason why one kidney should escape while the other is greatly diseased. The practical inference from the cases in this paper is an important one, viz. that their treatment should not be trusted to constitutional remedies alone, but that there should be employed along with these such local means as will restore the functions of the kidney or kidneys to a healthy state. Among these means are local abstraction of blood, by cupping or leeches, local as well as general warm bathing and counter-irritants. Mr. Earle has used blisters to the part, and afterwards kept them open with savine ointment with advantage. No remedy seems, however, to have done so much good as large and long continued *setons* in the neighbourhood of the diseased organ or organs. Cases are given in which the severest forms of the disease have been so far palliated as to allow the patient to get abroad and enjoy tolerable health. They have in others kept the affection in check; and in one case, the patient seemed in a fair way to recovery from apparently a hopeless condition; but having allowed the seton to heal, and neglecting the formation of a new one, the disease recurred with re-

newed violence and was fatal. There is another fact well established in this valuable paper. It appears that in many of the cases of diseased kidney seen by Mr. E., the disease was caused by *local violence*, such as falls, blows, &c. The inference from this fact is, that the affection was entirely of local origin, and that the constitutional symptoms developed along with or after it, are to be traced to the injury originally done the kidney. Local treatment thus becomes a very important and essential agent in the treatment and cure. Renal calculi constitute a disease of not unfrequent occurrence. This disease renders the situation of the patient miserable, and is ultimately fatal, if neglected. Pus is not unfrequently discharged with the urine, sometimes in large quantities. Blood at times is mixed with the water. In others the affection of the kidney is indicated by more or less severe pain in the organ, and by the discharge of calculi. The authority for the use of setons in this formidable complaint is highly respectable, and the effects as stated in Mr. Earle's paper encourage us to hope much from their faithful trial.

A Case of Carotid Aneurism successfully treated. By Giles Lyford, Esq. The patient was aged thirty-six. The tumour about the size of a hen's egg. The operation was performed in the usual way. A single ligature was applied. It came away in a month. About two months after this a slight hæmorrhage took place from the sore, which immediately subsided on the application of cold. He recovered perfect health.

A case of Popliteal Aneurism, in which the temporary ligature was employed. By William Roberts, Esq. Mr. R. was induced to employ the temporary ligature from the tedious process of recovery in a case in which he had operated in the usual way, and in consequence of the recommendation of Mr. Travers in a former volume of the Transactions. "The patient in the present case was L. Lewis, aged 32, a sea-faring man. The operation was done at 12 o'clock, 6th June; a single ligature was applied, and the wound dressed with simple ointment. At 12 on the 7th, the ligature was removed, and the edges of the wound were drawn together by sticking plaster. The removal of the ligature was facilitated by the interposition of a small piece of thread between the ligature and artery as recommended by Dr. Jones. In eleven days the wound was quite healed, and the patient continues to enjoy perfect health. Our readers may recollect that in our analysis of a former volume of the Transactions, we stated that Mr. Travers had been led to alter his opinion concerning the superiour advantages of temporary ligature over the ligature as heretofore applied. Mr. Roberts' case is certainly an exception to the general truth deduced by Mr. T. from such observations as have occurred in his own practice.

On an acute form of ulceration of the cartilages of Joints.
By Herbert Mayo, Esq.

The following quotations contain a case of the affection treated of in this paper, and the author's views in publishing it.

"The luminous illustration which the pathology of joints has received from Mr. Brodie, would infer some presumption in the attempt to prosecute this subject further. There are, perhaps, no organs, of the diseases of which an equally original and inclusive view has been taken; yet it is not impossible that even among these cases, certain varieties may have escaped unnoticed, which it may be useful to trace. The following observations, which I was led to make, when verifying Mr. Brodie's statement, may perhaps have this merit.

"A female, 27 years of age, six months after parturition, was seized with pain and swelling of the wrist. The next day, the right knee had participated in this affection. The succeeding day, both these affections had subsided; but similar changes had commenced in the left knee, which continued acutely painful and permanently swollen, the whole limb indeed being enlarged; the knee was frequently leeches and continually fomented, without any relief being obtained. Six weeks after the attack, I had an opportunity of observing this case; at that time, by the patient's account, no material change had taken place in the limb; the thigh and leg were swollen with serum effused in the cellular membrane; the joint itself contained no fluid; the pain in the knee was very acute and constant, and increased by the least movement; the patient lay on her back, with the knee straightened. The application of leeches to the part gave her now no more relief than formerly; cold applications and fomentations were equally inefficient; repeated blistering appeared, at one time, to be of service; afterwards, this measure seemed to have lost its power; small doses of calomel and opium were administered frequently, during a few successive days, with no result. At length the pain seemed to abate spontaneously, the swollen state of the limb gradually subsided, the patient recovered the appearance of health, but the joint was wholly immoveable."

"At any rate, it is useful to call the attention of the Society to an affection, important in its consequences, rapid in the progress of its symptoms, and liable to divert from the active treatment, which it probably requires at an early period, inasmuch as it simulates a more harmless affection, acute rheumatism." pp. 104—5—9.

Account of the Epidemic Spasmodic Cholera, which has lately prevailed in India, and at other adjacent countries and islands, and at sea. By Frederick Corbyn, Esq. with remarks, by Sir Gilbert Blanc, Bart. F.R.S., &c.

This paper occupies 53 pages of this volume. From the limits assigned this article, we are unable to offer an analysis of this Account.

On the causes of the vacuity of the arteries after death. By James Carson, M. D.

Mr. Carson attributes the emptiness of the arteries and of the smaller vessels observed after death, to the combined operation of the elasticity of the lungs and of the arterial canals. The following quotations will give the reader Mr. C.'s views on the subject of his paper.

"The motion of the blood seems to be the result of the contractions arising from the irritability of the heart and arteries, and of the resilience arising from the elasticity of arteries and of the lungs. One class only of these powers is destroyed by death. The resilience of the lungs and of the coats of the arteries possess then an uncontrouled operation.

"The resilience of the lungs removes a part of the pressure of the atmosphere from the internal surface of the chest, and perhaps from the internal surface of the vessels by which they are penetrated. To restore to the parts within the chest an equality of pressure with that of the substances without it, the adjoining liquid and less fixed parts of the body will be pressed through every channel that offers into the chest. What is called a vacuum will in effect be made in the chest by the elasticity of the lungs. There will therefore be a draining from all parts of the body towards the chest, to fill up this vacuum. As thus the causes which return the blood to the heart continue to operate, after the heart, the great engine by which it is discharged, has terminated its labours, a greater quantity of blood will be necessarily collected in the neighbourhood of the heart after death, than existed there before it.

"Various circumstances may intervene to fix the channels in which the blood will flow in its course towards the heart after death. The arteries are powerfully elastic, and when their coats are relieved from the distending force of the heart, become of a diminished calibre. Valves stationed at the roots of the arteries prevent the return of blood from these vessels into the chest. After the small part of the aortic system intervening between the heart and the confines of the chest shall have been, as it usually is found to be, filled with blood, the blood in the rest of this system will sustain no diminution of pressure on this side of the heart.

"No obstacle exists in the way of the blood in its course to the chest through the veins. No valves are stationed at the roots of these vessels, and the blood finds an unobstructed course from the roots of the cava into the auricles, from that possibly into the right ventricle and into the pulmonary arteries, [artery?] and thence into the pulmonary veins. The heart, particularly the auricles and the large venous trunks, the coats of which being inelastic and easily dilatable, being all placed within what may be called the vacuum of the chest, will be distended to their utmost capacity. The additional blood requisite for this purpose can be

drawn only from the veins. The place of the blood taken from one part of the venous system will be supplied by that from another. The termination of this process will be the emptying of the arteries into the veins." pp. 171—173.

The correctness of these views were tested by experiments, and although the complete collapse of the lungs could not be affected, or their elasticity counteracted, an approximation was made to it by the mode of death to which various animals were subjected. Both sides of the chest were perforated in some of these experiments, in others the diaphragm; the lungs of course collapsed.

"The result of these experiments I think fully warrant the conclusion, that the difference of the distribution of the blood after death from that in which, according to the Harveian theory, it must exist in the living system, arises chiefly from the elastic power of the lungs; and that the emptiness of the arteries and of the smaller vessels observed after death, admits of a satisfactory explanation from the supposed operation of this cause, combined with that of the elasticity of the arterial canals." pp. 179—180.

History of a second Cesarean Operation, performed on the patient, whose case is related in the ninth volume of the Society's Transactions. By J. J. Locher, M. D., of Zurich.

The first operation above referred to was extracted into the 8th volume of our Journal, and will be found in the 167 page, second number of that volume. This patient became pregnant again in August or September 1817. In November, having eaten some very indigestible food, violent vomiting occurred, and the old cicatrix gave way to the extent of about two lines, and a portion of omentum followed. This was reduced. Labour declared itself May 22d.

"May 23d.—Examination by the vagina however gave no indication of any thing contained in the uterus, nor could even the orifice of that organ be felt. These spasms lasted the whole day, and the child was felt in very strong motion; about seven in the evening she complained all at once of a very acute pain, and felt at the same moment some fluid pass off through the external organs. This discharge, which was pure blood in considerable quantity, and which immediately stopped the supposed pains, ceased suddenly. Nothing was discovered on examining again *per vaginam*; on the other hand, below the navel, in the line of the old wound, and under the ulcer, there appeared a circumscribed firm swelling, obviously caused by the child's head, of which the sutures were plainly discernible. I naturally concluded that the uterus had burst, so as to allow the child to escape; and the hæmorrhage was thus easily explained." pp. 186—187.

The Cæsarean operation was agreed on, and earnestly asked for by the patient. It was performed on the 23d, at about 12 at night. She died at 7 o'clock, on the 9th of July following. There were periods between the operation and its fatal issue which promised recovery. The patient suffered excessively from erysipelatous inflammation, which occurred on the abdomen, and gradually made progress over most of the trunk and extremities. She was also exceedingly troubled by a spontaneous and great salivation. On the subsidence of the external disease, internal inflammation manifested itself, and was fatal. Dissection showed the abdominal organs to have been in a state of great inflammation. The reporter of this case, is disposed to think that the abdominal visera became inflamed in consequence of the disappearance of the external erysipelas. There is good evidence however for believing that the internal disease had existed through most of the time after the operation, and gave a character to the symptoms through the whole of the disease. On dissection, an opening with a rounded callous edge, about the size of an almond, was observed on the anterior surface of the uterus. Dr. L. thinks this had remained from the first operation, and that the child had escaped through it during the labour. In all other respects the uterus was perfectly natural.

In an appendix to the paper by Mr. Lawrence, an account is given of three individuals, on whom the cæsarean operation has been within a few years performed with success in Germany. In the first of these patients, the child had been long dead. In the second the child was born alive, and did well. In the last case the operation was performed twice. The first was done on the morning of the 27th of August, 1802. The child lived till the 9th of September following. In the second operation on this patient, performed 20th of Feb. 1805, rupture of the womb had occurred. It took place on the posterior face of the organ, apparently in consequence of violent voluntary efforts, to make which the patient was solicited by an injudicious midwife. Nothing is said of the fate of the child in this operation, but from the circumstances attending the rupture, it was most probably dead.

ARTICLE XIV.

An account of the Yellow or Malignant Fever as it occurred in the City of Philadelphia, in 1820. By Samuel Jackson, M. D., President of the Board of Health, and one of the Vice Presidents of the Philadelphia Academy of Medicine. Philadelphia. M. Carey & Sons, Chesnut Street, 1821. pp. 166.

THIS pamphlet gives an account of the Yellow Fever, which occurred in Philadelphia, in 1820, and of the measures adopted by the Board of Health in that city, by which that disease was arrested.

This malignant fever began to show itself in July and continued until the last of November. Yet during that time only 125 persons were affected by it, of whom 83 died and 42 recovered. This disease does not then deserve our attention from the multitude of its victims. It is on account of the faithful history of it given by Dr. J. and the wise and successful conduct of the Board of Health, that this work is recommended to the public. Had that conduct been less prompt and less energetic, the epidemic would have numbered a much larger list of victims.

As soon as a few cases of the disease had occurred, it was ascertained that the subjects of them all had lived, or passed much of their time within a very limited spot of ground. Immediately the inhabitants of that ground were removed. The disease was not however arrested by this single effort. It shewed itself in several other spots successively, but the inhabitants of each district were removed as soon as the disease appeared among them. To this wise and effectual measure, the persons so removed, and not yet affected by the poison, undoubtedly owed their preservation from the disease. Where it was possible the sick were removed at the same time with those in health. The disease was not propagated to those who attended these sick persons in their new quarters.

Such, very briefly, are the facts which we learn from this intelligent and learned physician, whose official situation enabled him, and whose zeal and fidelity prompted him to investigate minutely the history of every case of this malignant disease, which occurred in his city.

May we not hope that this plan, which has been partially tried in some other cases, will have the chance of a full and fair experiment, wherever this disease shows itself in future. If the suspicion of importation cannot be given up, let the system of quarantine be maintained. But let us hope that a reliance on it will not go so far, as to prevent a trial of this other method also. Nor can it be necessary for a Board of

Health to delay their measures, in order to decide by what name the disease shall be called. It is time for them to act whenever it is found that a number of persons have died within a short time, in a particular vicinity. Those who remain in that vicinity, are liable to the action of some cause, which produces a mortal disease. Let them be removed, and then let the Doctors dispute, as long as they will, about the name of the disease and even about its causes. Let it be tried at least, whether the removal will save those who are yet in health.

It is not our intention to give an analysis of Dr. Jackson's book. It deserves to be carefully perused by every physician, and by all those inhabitants of our cities, who have any charge over, or take any interest in the public health. The author deserves great credit for the faithful performance of the duties of his office in the first place, and next for the honest statement of the facts which came to his knowledge. It is honourable to the city of Philadelphia, that its citizens will bear to hear truths, which may be ungrateful to them; and that, since the publication of this pamphlet, Dr. J. has again been appointed to the office of President of their Board of Health.

INTELLIGENCE.

THE MEASLES.

THIS disease appeared in Boston about the first of May. Before the end of that month it had extended considerably, and it continued to affect many subjects until after the middle of July. Since the first of August it has remained in the town, but has not been epidemic. Some adults and many children have undergone this disease, but many remain to be affected by it; so that it has not subsided because subjects are wanting. In Great Britain it is said usually to disappear about the summer solstice. In this place, whether it begins in January or May, it commonly subsides on the occurrence of hot weather in July. This year it continued later than usual. Possibly this may be attributed to the coldness of the weather in July.

This disease has been more severe the present season than is usual in this place. It was mortal in a larger proportion of cases, than it has been during the last twenty years, and, as we believe, during nearly forty years past. The severity of the disease consisted in some instances in the violence of the constitutional affection attending the eruption, but mostly in that of the subsequent pulmonic affection. Some patients were left by it in a feeble state, from which their recovery was slow. It was among teething children that it was most violent and most dangerous. It was not however more severe in any respect than it is usually described to be by the English writers.

MASSACHUSETTS GENERAL HOSPITAL.

The Massachusetts General Hospital is now open for the reception of patients. The necessity and utility of this institution must be obvious to all. In populous places there are always a

great number of persons who, when attacked with sickness or disease, cannot be properly attended at their ordinary abodes. Many perish for want of good nursing, free air, and regular medical attendance: and among these are often very active and useful members of society. Numerous are the cases of illness, in which the patient might be saved by transferring him from a noisy, dirty, confined room, to a large, clean, well ventilated chamber. Suppose, for example, a labouring man, the father of a family, attacked with a febrile or inflammatory disease: and placed in a small and low room, with scarcely a window, his bed surrounded by children, his wife dividing her attention between her sick husband and her suffering family. Let a poor man, thus situated, be carried to a large and well ventilated apartment, where the utmost neatness and tranquillity are found, and persons are provided to devote their attention wholly to the wants of the sick man. Those, who are accustomed to good houses, and to receive all the attentions they require, can scarcely imagine how great would be the importance and the comfort of such a change. The same remarks may be applied with equal propriety to labouring men, who meet with accidents and injuries, to which they are so much exposed. Another class of persons, who may derive benefit from this institution, consists of domestics, especially females. When people of this description are invaded by disease, the circumstances of the family in which they live, often render it impracticable for them to receive the attentions they require at home. It becomes necessary to send them elsewhere, to places where they are poorly provided and attended. Or if the benevolence of the heads of the family induces them to retain the sick person, it is to the hazard of others in the same house, and the derangement of their whole establishment.

Another and not less important set of cases for the Hospital is that of persons in low circumstances, affected with diseases which require great surgical operations. Such as these cannot afford to pay for the sufficient attendance of a surgeon; nor if they could, do their accommodations render it possible to undertake an affair of so great consequence to them, with all the necessary advantages. Persons thus unfortunate, who go into the Hospital, there obtain every assistance which would be had by the wealthiest individuals. Skillful surgeons, who are responsible to the public as well as the patient, for the exertion of the best of their knowledge; airy rooms; good nurses and a house physician and surgeon always at hand in case of sudden accidents. Sick strangers also, whether rich or poor, would be better placed in our Hospital than in any private boarding-houses: for its plan is such as to admit those who desire, to rooms appropriated to a

single person. The situation of the funds does not at present allow the admission of persons altogether gratuitously. They or their friends are expected to pay something for their board : but the medicines and attendance, &c. are given to them : and it is hoped, that the state legislature will soon place the institution in a condition to receive patients who are unable to make any compensation.

The Massachusetts General Hospital is situated at the western part of Boston on a small eminence, forming part of the banks of Charles River or bay. It is so placed that it must be forever open and accessible to the air from the south, west and east ; and on the north there is a considerable space between it and the nearest buildings. No place could be better adapted for such an establishment, whether for its salubrity or beauty. The opening to the west affords an extensive view of the bay, the waters of which wash the grounds of the Hospital ; and beyond the water appear the cultivated hills with which Boston is surrounded.

The edifice is constructed of the finest white granite. It consists of a central part and two wings, one of which is not yet completed interiorly. The central part contains the rooms of the superintendent, the apothecaries department, the kitchen ; and in the upper part, the operating theatre. It is surmounted by a dome which corresponds with the ceiling of the theatre. The wings are divided into apartments for patients, some small and some large, all of them well ventilated ; those for females being placed in the upper parts of the building. The stair-cases and entries are of stone, laid in the most secure and durable manner, between brick walls on each side ; so that there are four brick walls running from the bottom to the top in such a manner as to prevent the extension of fire from one part to another. The attention and ingenuity of the Trustees have introduced all the best improvements seen in such edifices in England. Water is supplied from a reservoir which receives the rain from the roof, and is also connected with a forcing pump to bring water from the cellar, when the cold might render it unsafe to retain it in the reservoir, and it is thence conveyed by pipes to all parts of the building where it is required. These pipes pass by the side of flues which convey hot air, and thus are not exposed to the effects of the cold. The apartments are supplied with heat by flues from furnaces in the cellar, in such manner as to keep them of a uniform temperature, and to remove the inconvenience and danger which arises from fire-places in the rooms of the patients. The sources above mentioned afford every convenience for the use of water closets and of warm baths ; and the

proximity of the sea presents a fine opportunity for sea-water bathing.

The furniture, so far as it has been collected, corresponds with the neatness and convenience of the apartments. The beds and accommodations connected with them are equal to those of good private houses. The liberality of various individuals has contributed much to promote the designs of the Trustees in this part of their arrangements. Various individuals, who were unable to give money, have given such articles of furniture as their particular occupation allowed.

The grounds belonging to the Hospital are not yet brought into order. It is the intention of those who manage its concerns, to lay out the fine area in front of the edifice, in gardens and walks for the health and pleasure of the invalids, as well as to complete the beauty and magnificence of the establishment.

Connected with the General Hospital, and under the same direction, is the Asylum for the Insane. This is placed on the opposite bank of the river, so as to be out of the noise of the town, and yet within half a mile's distance. The Asylum consists of three buildings, one of which, in the centre, is occupied for the apartments of the superintendent; and the others, placed on each side, are one for male, the other for female patients. They are connected with the centre building by covered passages. The grounds are extensive, and slope gently from the hospital, which is on an eminence, to the water. These grounds are laid out in gardens, which contain various arrangements for the exercise and amusement of the patients. There are probably few instances of a public establishment so conveniently and beautifully placed. The asylum has been open for two years, and the advantages expected from it have been realized.

The difficulties in the formation of these expensive establishments have not been inconsiderable. In our country, little is to be expected for such works from the government; and, of course, the burden falls on individuals. The contributions which have been made for these objects are highly honourable to the country. More than an hundred and twenty thousand dollars in money have been raised by private subscriptions; an individual gave twenty thousand dollars, three others gave each five thousand, and a society gave, from their funds, five thousand dollars. The state government has not been wanting in liberality. They gave property worth near fifty thousand dollars, besides some valuable privileges. The labour of employing these funds, in raising two institutions, both of them novel in this state, has fallen on a few benevolent and public-spirited

gentlemen, who have freely employed themselves for a number of years, with indefatigable perseverance, until their works have been crowned by a successful termination.*

The expence of erecting the different edifices has been so great, that at present the original plan of admitting patients gratuitously, cannot be carried into effect. Patients, therefore, are expected to give security for the payment of their board, which is fixed, for the lowest rate, at three dollars a week for the present; and to determine whether they are proper subjects, they are previously examined by the Physician or Surgeon, and receive his certificate to that effect.

To decide on applications a visiting committee sit once a week, on Thursdays in the afternoon. Beside the patients of the General Hospital, the Physician and Surgeon give advice to out-patients three times a week. The physician on Thursdays at 12 o'clock; the surgeon on Tuesdays and Fridays at 12; and the latter day is more especially devoted to those affected with disorders of the eyes. These patients receive medicine gratuitously from the hospital.

There are six consulting physicians and surgeons, for the whole institution. The General Hospital has, besides one acting physician, one surgeon and a house apothecary, who is also a physician. The asylum has one physician, who is also superintendent.

* Among those, whose philanthropy has led them to great efforts in favour of this benevolent institution, the name of one, who is no more, may properly be mentioned. JAMES PRINCE, Esq. held the responsible and laborious office of Treasurer, from the formation of the plan of the hospital until the present year. His care and assiduity, in collecting the sums subscribed, attracted the notice of all concerned in the success of this establishment; as it advanced, he never intermitted his labours, and at a time, when the difficulty for want of funds was such, as to check the advancement of the works, and to threaten a long delay, his ingenuity and industry produced adequate sources of supply, and afforded the trustees the means of executing their plans. He lived long enough to see that his exertions would not be in vain, and while fully engaged in promoting and directing various parts of this great design, he was taken to another existence, to be rewarded, as we humbly hope, for his labours to the relief of his fellow beings, in this state of trial and suffering.

It will not be thought improper to mention the names of the following individuals also, since they are no more.

SAMUEL ELIOT, Esq. bequeathed \$10,000 to the department of the Asylum for the Insane.

Mr. THOMAS OLIVER bequeathed the reversion of a valuable estate, supposed worth \$20,000.

Mr. BEZA TUCKER devised a house worth \$7,000.

The consulting physicians are :

Isaac Rand, M. D.	Thomas Welsh, M. D.
David Townsend, M. D.	Aaron Dexter, M. D.
James Mann, M. D.	William Spooner, M. D.
<i>Acting Physician.</i>	<i>Acting Surgeon.</i>
James Jackson, M. D.	John C. Warren, M. D.

House Apothecary.

Joshua Green, M. D.

Superintendent.

Mr. Nathaniel Fletcher.

Physician and Superintendent of the Asylum.

Rufus Wyman, M. D.

*Government of the Massachusetts General Hospital.*His Honour William Phillips, Esq. *President.*James Perkins, Esq. *Vice-President.**Trustees.*

Joseph May,	Joseph Coolidge,
Daniel Sargent,	Richard Sullivan,
Joseph Head,	Gamaliel Bradford,
Eben. Francis,	Samuel Appleton,
Jonathan Phillips,	Daniel P. Parker,
John Belknap,	Thomas W. Ward, Esquires.
Nathaniel P. Russell, Esq. <i>Treasurer.</i>	
Henry Codman, Esq. <i>Secretary.</i>	

The Statutes of the University in Cambridge, relating to the degree of Doctor of Medicine.

I.—The Faculty of Medicine of this University shall consist of the President, and of the Professors and Lecturers authorized to give instruction to the medical students. This faculty shall always have a Dean elected by themselves, for such periods as they may think proper, and may also adopt rules for their own government, provided that the same do not, in any respect, contravene the laws of the University.

II.—Students of medicine, designing to attend the medical lectures, or any of them, shall be matriculated in this University, by entering their names with the Dean of the faculty of medicine, to be enrolled by him; and by signing an obligation to submit to the laws of the University, and to the direction of the faculty of medicine.

III.—There shall be four meetings holden in this University annually, by the faculty of medicine, for the purpose of examining candidates for the degree of doctor of medicine. Two of these meetings shall be for private examinations, and shall be holden in the Massachusetts Medical College in Boston; and

two of them shall be for public examinations, and shall be holden in some one of the halls of the University in Cambridge. Three members of the faculty at least shall be present at every examination. The first meeting for private examinations in every year shall be holden on the day, next succeeding that on which the winter courses of medical lectures shall terminate, at ten o'clock A. M. The second meeting for private examinations shall be holden on the Monday next but one preceding the day of the annual commencement in the University, at ten o'clock A. M. In extraordinary cases the faculty may hold meetings for private examinations at other periods. The meetings for public examinations shall be holden on such days as the President may appoint, provided that the same shall take place within one week after the termination of the stated annual meetings for private examinations respectively. All the meetings described in this statute may be continued by adjournment. The meetings for the public examinations shall be open to the Governors and instructors of the University, to the fellows of the Massachusetts Medical Society, and to such other respectable persons as may choose to attend them.

IV.—Candidates for the degree of Doctor of medicine must comply with the following conditions, before being admitted to private examinations, viz :

1.—They shall have attended two courses of the lectures delivered at the Massachusetts Medical College on each of the following subjects, viz :

Anatomy and Surgery—Chemistry—and the Theory and Practice of Physic.*

2. They shall have employed three years in their professional studies, under the direction of a regular practitioner of medicine.

3. Those, who have not received an University education, shall satisfy the faculty of medicine in respect to their knowledge of the Latin language and experimental philosophy.

4. Every candidate, intending to offer himself for private examination shall, three weeks previously, give notice of his intention to the Dean of the faculty, and shall at the same time deliver, or transmit to the Dean a dissertation, written by himself, on some subject connected with medicine. Every dissertation shall be submitted, by the Dean, to the examination of the faculty in the mode which they shall point out.

V.—At the meetings for private examinations, the faculty shall examine all those candidates, who shall present themselves, after having complied with the conditions enumerated in the fourth of these statutes, upon the following branches of medical

* See New Vote on this subject, p. 409.

science, viz. ANATOMY, PHYSIOLOGY, CHEMISTRY, MATERIA MEDICA, PHARMACY, MIDWIFERY, SURGERY, and THE THEORY AND PRACTICE OF MEDICINE. At these meetings every candidate shall be examined separately, and the decision of the faculty in respect to each, shall be made and declared to him immediately after the examination has closed. The decision in respect to each candidate shall be determined by the votes of the major part of the members of the faculty, present at the examination of the same; and this decision, if favourable to the candidate, shall be recorded by the Dean. In the decisions to be made at these meetings, regard shall be had to the dissertations, as well as to the examinations.

VI.—Those candidates, who have been approved according to the fifth of these statutes, may present themselves at the public examination, next ensuing after such approbation. Each candidate, so presenting himself, shall then read and defend, or be examined upon the dissertation, which he shall have previously submitted to the faculty. At the close of each public examination, the faculty shall decide, in respect to each candidate, whether he shall be recommended as worthy of the degree for which he has applied. The decision of the faculty in respect to all those candidates, whom they do so recommend, shall be recorded by the Dean and shall by him be certified to the President, to be laid before the SENATUS ACADEMICUS. The candidates will learn the decisions in respect to them by application to the President.

VII.—Those candidates, who have received from the *Senatus Academicus* the final approbation, will be directed by the President to appear at Cambridge, at such time as he may appoint, and he will then admit each of them, with the accustomed solemnities, to the degree of doctor of medicine.

The following Votes of the Corporation, passed in 1819, are republished for the future government of the candidates for medical degrees:

“By the votes of the Corporation of Harvard University, approved by the Board of Overseers—

“JACOB BIGELOW, M. D. is made Professor of *Materia Medica*, and WALTER CHANNING, M. D. Professor of Midwifery and Medical Jurisprudence. The attendance on the courses of Lectures of the Professors aforesaid will be required in order to a Degree of all persons, who shall be first matriculated in the Medical School after the next Commencement. Those students in Medicine, who have already begun their studies, will not be required to attend more than one course with each of

the professors above named. The fees for these courses remain the same as heretofore.

JOHN T. KIRKLAND, *President*.

June 25, 1819."

At a meeting of the Faculty of Medicine of Harvard University, August 15, 1821.

Voted, That hereafter, the dissertations of candidates for examination in winter, shall be delivered on or before the first day of January; and that the dissertations of candidates for examination in summer, shall be delivered on or before the first day of July; and that no excuse will be received for a delay in the delivery of dissertations after the days appointed in the fourth section of the fourth statute.

NOTE.—The lectures for medical students on the various branches mentioned in the statutes, are delivered at the Massachusetts Medical College in Boston, and commence annually on the third Wednesday in November. They continue three months. During the lectures, the students may find in the town various opportunities for practical instruction.

The Hollis Professor of natural philosophy will admit medical students to attend the lectures on natural and experimental philosophy. The lectures are delivered in the Philosophy Hall at Cambridge, four days in the week, between the middle of March and the middle of July annually. In order to their admission, such students must produce, to the Professor above mentioned, a certificate of their matriculation from the Dean of the faculty of medicine, and another certificate from the Steward of the University that they have paid him seven dollars for the Treasurer. Other persons may be admitted to the same lectures, with the approbation of the President, and producing a certificate from the Steward that they have paid ten dollars. Application to be made in writing to the College Registrar.

The fee for the degree of Doctor of medicine is to be paid to the College Treasurer. The fee is twenty dollars for a person who has not taken a degree of Bachelor of Arts at any college or University; fifteen dollars for one who has taken the degree of Bachelor; and ten dollars for one who has taken the degree of Master of Arts.

It is to be desired that all candidates for the degree of doctor of medicine should comply with the foregoing statutes; but in cases where they operate as *ex-post facto* laws, and thereby occasion any considerable inconvenience to candidates, exemptions will be made by the Faculty of medicine.

Faculty of Medicine.

REV. JOHN THORNTON KIRKLAND, DD. and L.L.D. President of the University.

JAMES JACKSON, M. D. Professor of the Theory and Practice of Physic.

JOHN C. WARREN, M. D. Professor of Anatomy and Surgery.

JOHN GORHAM, M. D. Professor of Chemistry.

WALTER CHANNING, M. D. Professor of Midwifery and Medical Jurisprudence.

JACOB BIGELOW, M. D. Professor of Materia Medica, and Rumford Professor in the University.

The Rev. Dr. WARE is Registrar of the University.

Dr. WARREN is Dean of the Faculty of Medicine.

JOHN RANDALL, M. D. is Librarian of the Medical College, and

BENJ. BARETT, Sub-librarian.

MEDICAL GRADUATES.

THE following gentlemen have this year received the Degree of Doctor in Medicine in Harvard University, after being regularly examined, and having defended their theses.

Samuel Hart, A. M.—*On Hydrocephalus.*

Edward Augustus Holyoke, A. M.—*On Tubercular Phthisis.*

Horatio Newhall, A. B.—*On Periostitis.*

Joseph Hubbard Eastabrook, A. M.—*On Foreign Substances in the Oesophagus.*

Robert T. P. Fiske, A. M.—*On Rubeola.*

Joshua Green, A. M.—*On the Nervous temperament.*

Joshua H. Hayward, A. M.—*On the Gastric fluid.*

Walter P. B. Judson, A. B.—*On Mania a potu.*

George W. Kittredge—*On Puerperal Fever.*

Edward A. Lummus, A. M.—*On Venous Congestion.*

George W. Otis, A. M.—*On Yellow Fever.*

Frederic B. Page, A. B.—*On Scrofula.*

MEDICAL LECTURES.

The Medical Lectures of Harvard University, will commence at the Massachusetts Medical College, in Boston, on the third Wednesday in November.

Anatomy and Surgery, by Dr. Warren.

Chemistry, by Dr. Gorham.

Materia Medica, by Dr. Bigelow.

Midwifery and Medical Jurisprudence, by Dr. Channing.

Theory and Practice of Physic, by Dr. Jackson.

A circular has just been issued by Drs. *J. S. Rogers* and *J. M. Pendleton*, of New-York, proposing to devote four evenings in each week, from *November* to *March*, to the examination of a class in the various branches of *Medical Science*, as they are taught in the New-York College. It will be more particularly their object to revive the recollection of the lectures immediately preceding, and to present to their students every subject connected with their studies, and calculated to be beneficial; illustrated by specimens and preparations, to collect which they state no pains have been spared, and their best exertions will be continued to add constantly to them. Experiments in *Chemistry*, *Electricity*, &c. will also be displayed, for which purpose the necessary arrangements have been made. A library will be opened for the use of their students, which will contain the most eminent works on the different subjects, and to which additions will be made from time to time.

WE are gratified to learn that Dr. Hale proposes to publish by subscription, his two dissertations, which have received the Boylston Prize. The character of this gentleman, as a philosophical observer and writer, is well known to the medical public; particularly by his history of the spotted fever in Gardiner. These prize-dissertations are rendered peculiarly valuable by the experiments, which they detail, some of which were made on the author's own person.

The first dissertation, on the question of a direct passage from the stomach to the bladder, begins with a historical sketch of the different opinions which have prevailed among medical men upon the subject.

After noticing these different opinions, the author takes a concise view of the arguments, as drawn from facts already before the public, for and against the supposition of a direct communication, and then proceeds to give his own observations and experiments, on this interesting question. These researches are entirely of a physiological nature. Sir E. Home had shewn that rhubarb admits of easy detection when mixed either with the serum of the blood or with urine, by means of a solution of caustic alkali. In several of these experiments, (which were performed on the author's own person) rhubarb was taken in a considerable quantity of liquid, and when the urine began to be tinged by it, a vein was immediately opened and a small portion of blood was taken, that the serum might be examined. The experiments are varied, so as to exhibit different phenomena; but they all agree in establishing the position that the liquids taken into the stomach are mixed with the blood before they are discharged by urine.

The subject of the second dissertation has also engaged the attention of the medical world for a long period of time.

Every practitioner of medicine must have seen cases, in which it was extremely desirable to administer medicine, but where it was impossible to administer it in the ordinary way. Those who were engaged in the transfusion of blood were naturally enough led to attempt to introduce it into the veins. This was done in a few instances at a very early period, but although the accounts of the benefit derived from it are sufficiently extravagant, the practice has never gained the confidence of physicians.

It has more recently been ascertained that the action of many medicinal substances is the same upon animals, whether they are injected into a vein, or are administered by the mouth. It remained to be ascertained whether the injection of medicines into veins is consistent with the safety of the animal, and how far the same practice can be safely applied to the human body. This is what is attempted in the present dissertation. Several experiments were tried by the author, in which different substances were injected into the veins of animals, and the effects are given in detail. He then made the experiment upon himself, by injecting, with the help of an assistant, half an ounce of Castor oil into the median vein of the left arm.

We have taken pains to procure this brief account of Dr. Hale's Dissertations, with a view to advertize our medical brethren of how interesting a character they are. We cannot doubt that the subscription will be sufficient to induce the author to proceed in the publication. As the public are to be benefitted, he ought not to incur the risk of loss, which often attends publications of this kind.

NOTICES TO CORRESPONDENTS.

The following papers are on file, and will appear in our next number.

"Remarks upon Uterine Hæmorrhage and the beneficial effects of Mechanical Irritation as a remedy. By Samuel Rockwell, M. D."

"Observations on the Articulation of the Teeth. By T. Parsons, M. D."

"A case of Arm Presentation, with Remarks. By W. Channing, M. D."

"A communication on Colica Pictorum. By James Mann, M. D. &c."

"Review of Dr Ramsbotham's work on Midwifery; Dr. Prout's, on Calculous Diseases; &c. &c."

ERRATA.

Page 353, line 24, insert *for* before *which*.

" last line, for *parts* read *pastes*.

379, line 27, for *Daventer* read *Deventer*.

389, in running title, for *Conquest's* *Outlines*, &c. read *Granville's Report on Midwifery*.

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